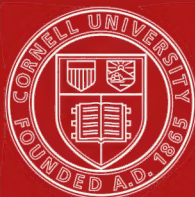


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# FAMILIAR 7. GARDEN FLOWERS

FIGURED BY

F. EDWARD HULME, F.L.S., F.S.A.

AND DESCRIBED BY

SHIRLEY HIBBERD

“ The loveliest flowers the closest cling to earth,  
And they first feel the sun : so violets blue ;  
So the soft star-like primrose drenched in dew—  
The happiest of spring's happy, fragrant birth.  
To gentlest touches sweetest tones reply.  
Still humbleness with her low-breathed voice  
Can steal o'er man's proud heart, and win his choice  
From earth to heaven, with mightier witchery  
Than eloquence or wisdom e'er could own.  
Bloom on then in your shade, contented bloom,  
Sweet flowers, nor deem yourselves to all unknown,—  
Heaven knows you, by whose gales and dews ye thrive ;  
They know, who one day for their altered doom  
Shall thank you, taught by you to abase themselves and live.”  
KEBLE.

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## PREFACE.



IN presenting the fifth bouquet of flowers from the home garden, occasion is made for returning thanks for the generous manner in which, with all their faults, the several gatherings have been received. The form of the work compels concentration, and it is well known that to write a long letter is much easier than to write a short one. It has sometimes troubled me that the brief space at command for presenting information compelled me to omit matters which, at the moment of writing, appeared to me of the highest importance. But now, when the task is completed, I see clearly that in the lightest of brief sketches there may often be conveyed a considerable amount of useful information, and perhaps in such a case as the present all that is really required. Unhappily, the shortness of the story is no defence against the intrusion of error, and while returning thanks for the cordial reception which the former volumes of the work have obtained, it is necessary to ask pardon for any slips of the pen that may be discovered.

S. H.



# CONTENTS.

	PAGE
SPANISH IRIS . . . . .	1
AMETHYST ERYNGO . . . . .	5
BOUVARDIA . . . . .	9
JAPANESE ANEMONE . . . . .	13
PICOTEE . . . . .	17
TACSONIA . . . . .	21
TORCH LILY . . . . .	25
SINGLE DAHLIA . . . . .	29
ROSE CAMPION . . . . .	33
MARÉCHAL NIEL ROSE . . . . .	37
MIGNONETTE . . . . .	41
GIANT BALSAM . . . . .	45
HAWTHORN . . . . .	49
CHRYSANTHEMUM . . . . .	53
LOVE-LIES-BLEEDING . . . . .	57
RHODODENDRON . . . . .	61
BORDER PINKS . . . . .	65
AFRICAN LILY . . . . .	69
GENTIANELLA . . . . .	73
LAPAGERIA . . . . .	77
SWEET WILLIAM . . . . .	81

	PAGE
CACTUS . . . . .	85
HOLLYHOCK. . . . .	89
BEGONIA . . . . .	93
FORGET-ME-NOT. . . . .	97
<del>DESY</del> PANSY . . . . .	101
VERBENA . . . . .	105
MAJOR CONVULVULUS. . . . .	109
DAY LILY . . . . .	113
LILY OF THE FIELD . . . . .	117
COMMON FLAX . . . . .	121
COREOPSIS . . . . .	125
CANDYTUFT. . . . .	129
CUPHEA . . . . .	133
ROSY YARROW . . . . .	137
LYRE FLOWER . . . . .	141
ZINNIA . . . . .	145
SWEET CLEMATIS . . . . .	149
CAPE LEADWORT. . . . .	153
INCOMPARABLE DAFFODIL . . . . .	157
<hr/>	
INDEX OF ENGLISH NAMES . . . . .	161
"    BOTANICAL NAMES . . . . .	163
"    "    ORDERS . . . . .	165



## SYNOPSIS.

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**SPANISH IRIS.**—This iris (*I. xiphium*) and the English iris (*I. xiphioides*) are so nearly alike that there can be no impropriety in regarding them as forms of one and the same species. They both belong to South-western Europe, where we meet with another differing immensely in character, the great *Iris Iberica*, a species lately introduced and now much sought after by collectors of hardy plants. The iris family afford the student a ready opportunity of observing some of the more prominent characters of monocotyledons in which the flowers are fashioned on a model greatly differing from those of dicotyledons. The former have no distinct calyx and corolla, but in the latter these are usually conspicuous and afford useful characters in the determination of species. As a garden plant the Spanish iris represents the bulbous-rooted section of iris, as the German iris represents the rhizomatous section. The bulbous species have flat or incurved leaves, but the fleshy, fibrous-rooted kinds have ensiform or “flag” leaves. See under “*Aconitum*.” p. 1.

**ERYNGIUM**, from a name adopted by Pliny. N.O., *Apiaceæ*, or Umbellifers. LINNÆAN: 5, *Pentandria*; 2, *Digynia*.—Between an eryngo and a parsley or hemlock, what a difference! It seems to the casual eye impossible that plants so apparently dissimilar can be so closely related. But as happens again and again, the gradations are of the most gentle kind in the several modifications, and thus the extreme forms are brought into harmony by the several links that unite them. The plants are herbaceous, the leaves divided, the flowers in umbels. *Eryngium* is an extreme form of an umbellifer; the inflorescence needs but to be carefully examined to reveal its relationships. p. 5.

**CENTAUREA**, a classical name commemorating the curing of a wound in the foot of Chiron, the centaur, by the juice of the plant. N.O., *Asteraceæ*. LINNÆAN: 19, *Syngenesia*; 3, *Frustranea*. p. 9.

**POPPY ANEMONE.**—The generic term *Anemone*, or wind-flower, is from *anemos*, the wind, or from the river Anemo, that flowed past the city of Ravenna, where probably anemones grew abundantly in ancient times. In its relationships the anemone comes near to the ranunculus. One of its peculiarities is an involucre of three pieces usually distinct from the flower, and there is no pore or nectary as in the ranunculus. p. 13.

**DIANTHUS**, from *dios*, divine, and *anthos*, a flower, the “flower of Jove.” N.O., *Caryophyllaceæ*. LINNÆAN: 10, *Decandria*; 2, *Digynia*. p. 17.

**TACSONIA** is named from *tacso*, by which one of the species is known in Peru. N.O., *Passifloraceæ*. LINNÆAN: 16, *Monadelphina*; 2, *Pentandria*.—The passion flowers constitute a magnificent family of herbs and shrubs, mostly of rampant growth and climbing habit. The flowers are unique in structure as well as in beauty; the fruits are often handsome, and make even more show than the flowers in some instances, while a certain number of them are edible, though as regards wholesomeness sometimes a little doubtful. The botanists are not agreed as to the structure of the flowers, for it is a question if there are any proper petals; but the view that appears to prevail is that the outer series of floral envelopes are sepals, and those within them petals. There is yet another view possible: to consider that there are no sepals, but the whole series within and without are petals. p. 21.

**TRITOMA**, from *treis*, three, and *temno*, to cut, in allusion to the three sharp edges of the hard-textured leaves. N.O., *Liliaceæ*. LINNÆAN: 6, *Hexandria*; 1, *Monogynia*. p. 25.

**DAHLIA**, named after Dahl, a Swedish botanist. N.O., *Asteraceæ*. LINNÆAN: 19, *Syngenesia*; 2, *Superflua*. p. 29.

**LYCHNIS**, from *lychnos*, a lamp, in allusion to the colour of the flowers. N.O., *Caryophyllaceæ*. LINNÆAN: 10, *Decandria*; 4, *Pentagynia*.—As a near relative of the pink, carnation, and silene, the lychnis sustains the honours of the family by producing brilliant flowers. All the members of this order are herbaceous plants, or sub-shrubby; none of them are trees in any proper sense of the word. We have had clove carnations ten years old with stems as hard as flint, and as thick as a large man's thumb; but it is not often any of the pink tribe attain to so mature a condition. One of their constant characters is the jointed and forked growth of the stems; another is the simple form of the leaves, which are opposite, and often unite and clasp the stem. The flowers are usually hermaphrodite, consisting

of five sepals and five petals; the stamens equal in number to the petals or double; styles thread-like, bearing the stigmas on their internal surface; fruit a one-celled capsule. In this order occur, in addition to the plants already named, the cerastium, spargula, saponaria, and gypsophila. They are for the most part useless, and also for the most part harmless. It is often stated that the clove of the spice-box is the produce of a caryophyllaceous plant; but that is a mistake arising out of the name *Caryophyllus aromaticus*. This is a member of the family of myrtles. It is the spicy odour of the carnation that obtains for it the specific name of *Caryophyllus*; but the two "cloves" are in the natural system separated by as many as ninety-four orders.

p. 33.

**GEUM**, from *geo*, to stimulate, the roots of some of the species being employed in medicine, and sometimes as substitutes for Peruvian bark. N.O., *Rosaceæ*. LINNÆAN: 12, *Icosandria*; 3, *Polygynia*.—The geum, or avens, is allied to potentilla, and is consequently a near relative of the bramble and strawberry. Instead of producing a succulent receptacle called for convenience a "fruit," the geums and potentillas produce dry carpels. They are of considerable importance, however, on account of the fannic acid of their roots, those of the common avens, or Herb Bennett, being sometimes employed to flavour ale, while the roots of the common tormentil are in the north used in place of hops in brewing. For botanical characters see under "*Rosa*."

p. 37.

**RESEDA**, from *resedo*, to calm, from its supposed healing or sedative properties. N.O., *Resedaceæ*. LINNÆAN: 11, *Dodecandria*; 3, *Trigynia*.—Although the fragrant mignonette is a native of Egypt, we have two native species of reseda that closely resemble it, but have not its delicious fragrance. The British mignonette is known as Dyer's rocket, having in ancient times been much employed as a green dye. The plants of this order are few in number, and are all of a soft herbaceous character, producing flowers in racemes or spikes. Our garden mignonette is a favourite with the honey-bees, but the honey they obtain from it appears to have no special character.

p. 41.

**IMPATIENS** is explained by touching the ripe seed-pod of any kind of balsam, the elasticity of the valves causing the sudden ejection of the seeds to a considerable distance. N.O., *Balsamaceæ*. LINNÆAN: 5, *Pentandria*; 1, *Monogynia*.—The order consists of herbaceous plants, mostly annuals, with irregular flowers. The number five rules in the flower, there being five sepals, five petals, five stamens, five carpels, consolidated into a five-celled ovary, and there are other repetitions of the same number. Although so eccentric in habit, and with flowers irregular in construction,

the balsams come near to the sedate and orderly crane's-bills. The balsams, however, are for the botanical student far more interesting than the crane's-bills; in fact, the problems suggested by the flower are intricate and perplexing. The species are partial to warmth and humidity, and most of them prefer shady places. p. 45.

**CRATÆGUS**, from *kratos*, strength. N.O. *Rosaceæ*. LINNÆAN: 12, *Icosandria*; 2, *Di-pentagynia*.—See summary under "*Rosa*." p. 49.

**CHRYSANTHEMUM**, from *chrysos*, gold, and *anthos*, flower. N.O., *Asteraceæ*. LINNÆAN: 19, *Syngenesia*; 2, *Superflua*. p. 53.

**AMARANTHUS** is of doubtful origin, but the accepted etymology is from the supposed imperishability of the flower, *a-mairaino* implying a thing that does not wither. N.O., *Amarantaceæ*. LINNÆAN: 21, *Monœcia*; 5, *Pentandria*.—The species are herbs or shrubs, with flowers in dense heads or spikes, coloured sepals, and no proper petals. They come near to the chenopods in general structure. p. 57

**RHODODENDRON**.—The name is compounded from *rhodon*, rose, and *dendron*, tree. It is the rose-tree, or tree-rose. N.O., *Ericaceæ*. LINNÆAN: 10, *Decandria*; 1, *Monogynia*.—The rhododendrons constitute a great and important section of the family of heaths. They are shrubs or trees, mostly evergreen, with funnel-shaped flowers consisting of five lobes with ten stamens, but there are a few curious exceptions to the rule. The magnificent *Rhododendron Griffithianum* has sixteen stamens, and some of the species have but eight. The casual eye recognises the more prominent characters, such as the style of the leafage, which is very distinct, and the appearance of the flowers in dense clusters at the ends of the branches, the buds before expansion being clothed with leafy scales. There are, however, some singular exceptions to the prominent characters by which the rhododendrons are generally known. Thus the Dahurian species is deciduous and the leaves are small, so that the plant has always a spare appearance; the flowers, moreover, occur singly, or at most only two or three together. And yet this is much valued in the American garden for its early flowers, which appear in advance of the leaves and are of a lovely purple colour. These and their companions, the azaleas, are commonly spoken of as "American plants," but the New World has supplied but few of the many that are in cultivation. *Rhododendron maximum* and *Azalea calendulacea* are natives of the North American continent, but the far east has supplied more species than the far west to our gardens—Siberia, China, the Himalayas, and Asia Minor being the principal sources of supply. The Pontic rhodo-

dendron is an example of a kind of vegetation common to some parts of Asia Minor, where may also be found the Pontic azalea, which has yellow or orange-coloured flowers. Among the flowers of the Alps occur two rhododendrons, namely, *R. ferrugineum* and *R. hirsutum*, which are of dwarf growth and exceedingly beautiful when in flower. Between the rhododendrons and the azaleas the differences are but few and slight, but the cultivator distinguishes them readily, for in general complexion they differ in a greater degree than in details of structure. The stamens are usually five in number, the flowers are often glandular and clammy, and many of the species are as decidedly deciduous as the rhododendrons are decidedly evergreen. But there are species intermediate between the two genera, and therefore to keep them apart is a matter of convenience more than of necessity.

p. 61.

**DIANTHUS.**—See synopsis.

p. 65.

**AGAPANTHUS**, from *agape*, love, and *anthos*, a flower. N.O. *Liliaceæ*.

p. 69.

**GENTIANELLA.**—See synopsis.

p. 73.

**LAPAGERIA** is so named in honour of Joséphine Lapagérie, wife of the first Napoleon Bonaparte, whose beautiful garden at Malmaison contributed in various ways to the advancement of botanical science. N.O., *Philesiaceæ*. LINNÆAN: 6, *Hexandria*; 1, *Monogynia*.—This fine South American twiner is allied to the similax and the philesia. The fruit is said to be eatable; the root has the properties of sarsaparilla.

p. 77.

**DIANTHUS.**—See synopsis.

p. 81.

**PHYLLOCACTUS** is a leafy cactus, the growth being leaf-like; the flowers form on the edge of the expanded phyllode or leaf. N.O., *Cactaceæ*. LINNÆAN: 12, *Icosandria*; 1, *Monogynia*.—This represents the great family of succulent plants known as Indian figs, all natives of the American continent, though variously described as natives of China, the Mauritius, and even of Europe; in all these cases the plants have been introduced and naturalised, and though appearing as wildings are of American origin. A "leafy cactus" is a plant without leaves, the greater part of this great family being characterised by the absence of those organs, the exact state of the case being that leaf and branch are of one and the same substance, at least, in the earlier stages of growth, although in due time woody fibre is deposited and considerable rigidity of structure is secured. The flowers are in many instances very showy, and consist usually

of an indefinite number of sepals and petals, with many stamens and stigmas. The fruit is succulent, many-seeded, and in most cases wholesome and agreeable to the palate, though, generally speaking, tame and insipid. In Mexico the fleshy cactuses are eaten by cattle, being first bruised by them with their hoofs to subdue the formidable spines. In the Galapagos, land-tortoises subsist in great part on these plants. The insect that produces cochineal subsists on an opuntia, which was formerly largely grown for the purpose, but is perhaps now, in great part, superseded by aniline dyes.

p. 85.

**ALTHEA**, from *altheo*, to cure, in allusion to the emollient properties of the mallows and their kindred. N.O., *Malvaceæ*, or Mallows. LINNÆAN: 16, *Monadelphica*; 8, *Polyandria*. For notes on the order, see under "Malope," in synopsis.

p. 89.

**BEGONIA**.—See synopsis.

p. 93.

**MYOSOTIS**, from *mys* or *mus*, a mouse, and *otis*, an ear; in allusion to the shape of the leaves. N.O., *Boraginaceæ*, or Borageworts. LINNÆAN: 5, *Pentandria*; 1, *Monogynia*.—It is important to note as characters of the borage family that the stems are round, and the leaves alternate, whereas in the labiates that come so near to them the stems are square, and the leaves opposite; moreover the flowers of borageworts are regular, while the leaves are not furnished with resinous dots, and their properties are emollient rather than aromatic. The plants of this order are mostly natives of temperate regions of the northern hemisphere, very rare in arctic, and quite unknown in tropical countries. The "coolness" of borage, for which it is employed in flavouring beverages, may be attributable to the presence of nitre. There are not many useful plants in the family, but we must remember that the prickly comfrey (*Symphitum asperrimum*) has acquired importance in late years as a forage plant, and the young leaves of the common comfrey (*S. officinale*) have some repute as a substitute for spinach.

p. 97.

**PANSIES**, *Viola tricolor*. N.O., *Violaceæ*.—Calyx of five sepals, produced at base. Petals five, unequal, the lowest produced into a spur; very variable in colour. Stamens five, filaments very short; anthers connate, two of them spurred, on inner broad surface of filaments. Style single, clavate; stigma large, capitate. Ovary one-celled, with three parietal placentas. Fruit capsular, three-valved. Stipules very large, foliaceous, deeply divided into linear lobes, crenate. Leaves oblong, deeply crenate. Stem weak, angled, branching freely.—Cultivated fields and waste ground. May, June, July, August, September. Annual or biennial. Very variable.

p. 101.



**VERBENA**, from the Celtic *vervain*, a plant of magic and mystery.

“Here holy vervayne, and here dill,  
 ‘Gainst witchcraft much avayling;  
 Here horehound ‘gaynst the mad dog’s ill,  
 By biting, never failing.”

N.O., *Verbenaceæ*. LINNÆAN: 14, *Didynamia*; 2, *Angiosperma*.—The plants of this order are trees or shrubs, the flowers tubular, and of one petal as in the primula, jasmine, and many other subjects in which the lobed limb suggests a series of petals. Several members of the order are of importance in the arts, but none of them are of great utility, save one, and that is the renowned *Tectona grandis*, the teak of the ship-builder, the noblest of the timbers of Asia. Associated with the verbenas are, as above noted, the teak, the callicarpa, clerodendron, vitex, and the lantana. p. 105.

**CONVOLVULUS**.—See synopsis.

p. 109.

**HEMEROCALLIS**, from *hemero*, a day, and *kallos*, beauty, in allusion to the brief duration of the flowers. N.O., *Liliaceæ*. LINNÆAN: 6, *Hexandria*; 1, *Monogynia*.—See synopsis under “*Lilium*.” p. 113.

**LILIUM**.—See synopsis.

p. 117

**CRIMSON FLAX**, or **LINUM**. The generic name is from *linon*, flax, from which we have linen, line, lint, linseed, &c. N.O., *Linaceæ*. LINNÆAN: 5, *Pentandria*; 5, *Pentagynia*.—The order comprises herbs and woody plants with entire leaves and hermaphrodite flowers. The calyx and corolla are each of five pieces, and the stamens agree in number and are alternate with the petals. The fruit is a capsule containing many compressed ovate seeds which are without albumen, and have a mucilaginous integument. The common flax is *Linum usatissimum*, one of the most useful of plants, the history of which carries us back to the earliest days of civilisation. It is believed to be a native of Egypt; but that belief may rest upon the fact that it first acquired proper renown there, and being used by a cultivated people, obtained through them an honourable place in literature. This plant, everywhere grown for its tenacious fibres, is comparatively unknown in gardens, and the observer of vegetable forms who is unacquainted with it may be advised to sow a few common flax seeds in the spring, and in due time look for an elegant tuft of vegetation crowned with pretty blue flowers. p. 121.

**COREOPSIS**, from *koris*, in allusion to the resemblance of the seed to a small beetle.—See under “*Aster*,” in synopsis. p. 121.

**CANDYTUFT** (*Iberis*). A genus of *Cruciferae*. Name *Iberis*, from *Iberia* (Spain). Distinguished by unequal petals. See *Brassicaceae* order.

p. 129.

**CUPHEA**, from *kuphos*, curved, referring to the form of the seed-pods. N.O., *Lythraceae*. LINNÆAN: 11, *Dodecandria*; 1, *Monogynia*.—The Loosestrife family consists of herbs, shrubs, and trees, very variously furnished with leaves and flowers, and consequently a troublesome one to the student. The leaves are usually simple; the flowers hermaphrodite; the calyx tubular, and the corolla is inserted in the summit of the tube. The principal genera are *Lythrum*—of which we have a fine example in our riverside plant, *L. salicaria*—*Cuphea*, *Lagerströmia*, *Peplis*, and *Ameletia*. A member of this order, the *Physocalymma floribunda* of Brazil, supplies the rosewood of commerce; and another, the *Lawsonia alba* of Egypt, is the source of the celebrated henna, or heuné, which the ladies of the East employ for dyeing their nails and fingers.

p. 133.

**ACHILLEA**, from *Achilles*, pupil of Chiron, who first used it in medicine. It is worthy of note that the mighty Achilles, who slew Hector at Troy, was trained in horse-riding by Chiron the Centaur. The coincidence makes the derivation doubtful. N.O., *Compositæ*, or *Asteraceæ*. LINNÆAN: 19, *Syngenesia*; 2, *Superflua*.—See under “*Aster*,” in synopsis.

p. 137.

**DIELYTRA**, from *dis*, two, and *elytron*, a sheath or wing-case. It is also called *Dielytra* and *Dicentra*. N.O., *Fumariaceæ*. LINNÆAN: 17, *Diadelphia*; 2, *Hexandria*.—The plants of this order are herbs closely allied to the poppies. The leaves are alternate, much divided; flowers irregular, sometimes in terminal racemes, sometimes opposite the leaves, the colours usually purple, red, and yellow, more rarely white. Good examples of structure are furnished by the wild fumitory, the corydalis, and the dielytra. It will be seen that the calyx consists of two flat pieces that soon fall off; the corolla is tubular, formed of four unequal petals. In the fumitory the largest petal is drawn out into a spur; but in dielytra there is no spur. The fruit is usually a pod containing many seeds, which are shed by the opening of the pod in two valves. The plants of this order have but little importance in the arts, and they are, for the most part, as innocuous as they are useless. The common fumitory (*F. officinalis*) is, however, often used as a medicine in skin diseases, and as an aid to the stomach after exhausting fevers. In many places the juices of the fumitories or smoke-worts are used to curdle milk.

p. 141.

**ZINNIA**, named after J. G. Zinn, German Professor of Botany. N.O., *Compositæ*, or *Asteraceæ*. LINNÆAN: 19, *Syngenesia*; 2, *Superflua*.—For characters see under “*Aster*.”

p. 145.

**CLEMATIS.**—See synopsis.

p. 149.

**PLUMBAGO**, from *plumbum*, lead. N.O., *Plumbaginaceæ*. LINNÆAN: 5, *Pentandria*; 1, *Monogynia*.—Herbs or shrubs with alternate leaves, and regular flowers consisting of one-pieced calyx and corolla, each divided into four or five lobes. Stamens as many as the lobes, and placed opposite to them. A comparatively unimportant order, the principal members of which are the statice or sea lavender, the *acantholimon*, and the *plumbago*. All these are useful in one way or another in the arts and in medicine, some of the *statice*s being employed in tanning leather, and the *leadworts* being emetic when taken internally, and powerfully stimulant to the skin when applied externally.

p. 153.

**INCOMPARABLE DAFFODIL.**—See under “*Narcissus*,” in synopsis.

p. 157.

“Broods there some spirit here?  
The summer leaves hang silent as a cloud,  
And o’er the pools, all still and darkly clear,  
The wild wood-hyacinth with awe seems bowed;  
And something of a tender cloistral gloom  
Deepens the violet’s bloom.

“The very light that streams  
Through the dim dewy veil of foliage round,  
Comes tremulous with emerald-tinted gleams,  
As if it knew the place were holy ground;  
And would not startle, with too bright a burst  
Flowers, all divinely nursed.”







SPANISH IRIS.



# FAMILIAR GARDEN FLOWERS.

---



## SPANISH IRIS.

*Iris Xiphium.*

HERE are two species iris so nearly alike both in name and nature that beginners are apt to consider them as one and the same. One is called the English iris (*I. Xiphoides*), the other is the Spanish iris (*I. Xiphium*). Both are natives of the Peninsula. They belong to Spain, Portugal, and the Pyrenees, and by the men of science are regarded as scarcely specifically distinct. But in a work of this kind we must not enter into scientific questions except in a very superficial way, and it must suffice us to show, not how these two so-called species

spring, as it were, from one root, but how they may be distinguished by the amateur who desires to derive from his garden some useful knowledge.

The Spanish iris flowers earlier than the English, and is the taller of the two, and the more fragrant. The Spanish iris produces a smaller flower than the English.

The Spanish iris usually produces two to three flowers on a stem, and the English iris is usually one-flowered; but they both vary in this respect, and the number of flowers on a stem is no trustworthy criterion for distinguishing the species. The natural colour of the Spanish iris is azure-blue, but there are many varieties in which shades of yellow and chestnut appear. The English iris is sky-blue, with darker shades and a bold yellow spot on the external divisions. As regards their requirements and mode of growth and flowering there is no difference whatever. Where the one sort thrives, there also will the other, and they make very pretty beds and border groups. As bedding-plants, however, they are of small value, because their beauty so soon passes away.

To grow these beautiful flowers in a satisfactory manner, they should have a deep sandy soil, not of a dry starving nature, and not swampy or boggy. As border flowers both these sections of the iris family are worthy of attention, as the colours they lend to a collection of hardy plants differ much from such as commonly prevail in their season of flowering, and they are interesting flowers for observation in detail. One advantage in using these as border flowers rather than as bedders is that when the clumps die out, as they are apt to do, they are scarcely missed, whereas it is a great vexation, when beds have been well furnished and are expected to improve, to find them marred by gaps or weak places where they ought, according to the ordinary run of experiences, to be at their very best. On warm, dry, sandy soils perhaps the losses we have become familiar with do not occur. It has been our lot to be compelled to prepare soils especially for plants of this class, by carting in material, and mixing

with our heavy staple; and no one accustomed to horticultural practice needs to be told that a made soil never answers its intended purpose like a soil naturally adapted for the same purpose, and which the making process is intended to imitate. However, in beds of sandy loam on a clay foundation we have grown all the more delicate kinds of iris with success fully remunerative, but we have had to endure the occurrence of occasional gaps in the plantations.

Amongst our pets for this special culture we must enumerate *Iris reticulata*, *I. amœna*, *I. cristata*, *I. iberica*, *I. juncea*, *I. nudicaulis*, *I. pumila*. As for the last, on heavy clay land at Hermitage, some half-dozen varieties prospered so well without any particular aid whatever that we are disposed to recommend this dwarf "Crimean iris" for any soil.

According to the legend, Iris was a messenger of Juno, who transformed her into the rainbow. But she lives in this flower, which has some rainbow colours, and in every eye that can distinguish between blue, and brown, and russet, and ruby.

The strong growing and useful German iris, or "common flag" of the gardens, is a grand plant when grown in collections, as the varieties are strangely and beautifully coloured. And as regards colour, the deep blue of the common flag is in its way unique. But the iris of the florists is *Iris Kämpferi*, otherwise known as *I. laevigata*. This is a native of Japan. It is of dwarf robust growth, and produces magnificent flowers in every variety of colour-tones, blue predominating. Some trouble has been experienced in the cultivation of this resplendent flower, and it may be of service to the reader if we give some

brief practical directions. In the first place, then, it should be borne in mind that Kæmpfer's iris requires a very moist soil in the growing season; it is, indeed, somewhat of a marsh plant. It follows that, in preparing a bed for it in any position that is not naturally very damp, the bed should be somewhat below the general level, so as to retain much of the summer rain, as also of water given by manual labour. Another point of importance is to plant in a rich deep loamy soil, and to lay on the bed a few inches of fat manure.

In addition there are two noble species worthy the attention of those who value really choice plants. They are *Iris iberica* (already mentioned) and *Iris susiana*. They produce very large and singularly marked flowers, wanting perhaps in what superficial observers call beauty, but truly beautiful and somewhat remarkable for all that. These noble species are hardy in the more favoured parts of the south and west, but in the neighbourhood of London they require to be grown in a frame or greenhouse.







AMETHYST ERYNGO.



## AMETHYST ERYNGO.

*Eryngium amethystinum.*



ASIDE botanists are well acquainted with the curious spiny leaves of the sea-holly, which attract no less by their glaucous colour than their challenge of war. When in flower the plant has a fine, daring sort of beauty, and may remind one of the story of the thistle that the invading Dane trod upon, when, by reason of his cry of pain, the plant was promoted to the banner of Scotland. This sea-holly might be called a thistle, but, as a matter of fact, it is an umbelliferous plant, where as the thistle is a true composite. The alliance of the eryngo is with the hemlocks, that of the thistle with the asters: and so an eryngo is not a thistle, but agrees in the circumstance of being armed for defence against all ordinary foes.

All the eryngos, our own seaside friend in particular, may be turned to account by drying them for winter decorations, their tough texture and very distinctive forms favouring this use of them. Whether the roots of the garden eryngos are of any economic value we cannot say ; but we call to mind that the bitter roots of the British wilding have enjoyed some fame as a valuable tonic, and from the most ancient times have been made into a sweet-meat with the aid of sugar. Once upon a time the town of Colchester presented royalty with a delicate sample of candied sea-holly roots, and the sale of the article thereupon increased greatly, while, as a matter of course, many wonderful cures were effected by the confection.

*Eryngium amethystinum* is a native of Styria. It has been cultivated in English gardens more than two centuries, yet even now it is scarce, because perhaps it is not showy. In respect of beauty it is certainly unique. The flower-heads are not less delightful in their construction than their colour, and the leafage harmonises in a weird sort of way with the amethyst tufts that crown the plant. It is perfectly hardy, and needs no more than the most ordinary care, the best place for it being a sheltered border or a dry ledge of a spacious rockery. This and other species are increased by seeds and divisions, and for the purposes of a private garden the division of a strong plant when commencing growth in spring will be sufficient.

Other species of eryngium that an amateur of such plants will gladly secure should be named here in the interests of this kind of gardening, the adherents to which are sadly few. *E. giganteum* is a plant of strong growth and very fine proportions, producing heads of purplish blue flowers. It attains a height of from four to five feet,

and presents a noble appearance in the border. *E. alpinum* is a charming miniature. *E. spina alba* is also a pretty dwarf plant suitable for the rockery.

We shall now mention a few more plants that make no appeal in colour to the casual eye, but are, nevertheless, most desirable garden plants where there is space for their accommodation and taste for their eccentricities. Foremost in the category we should place the gigantic *Eryngium pandanifolium* as the type of a group of which the amateur does not require many examples. This plant stands far apart from the pretty subject figured; it has a singular body of leafage, slightly twisted in the way of a screw pine, and a quite unattractive head of flowers. Similarly noble is the large-leaved *Senecio Japonicus*, which grows to a height of five feet, and finishes its career by a display of orange-coloured flowers that are decidedly coarse, but also decidedly magnificent. *Polygonum cuspidatum* is another of the giants, requiring plenty of room, and being quite unfit for a place in any ordinary rockery. It is a glorious plant, but requires for its full development about as much space as a proper four-roomed cottage. *Elymus glaucifolius* is a cheap hardy grass with glistening blue leaves that will thrive on any heap of dry sand or stone. It is too coarse for the rockery, but a broad-minded amateur may be happy with it for an outdoor companion. *Ferula tingitana* is the giant fennel, a most interesting and proper rockery or border plant, loving moisture and warmth.

Its rich green colour is very different to the curious colours we have had before us in this chapter. Finally, *Phormium tenax*, the New Zealand flax, demands a place in the garden of every true amateur, and, strange to say, the beautiful variegated-leaved variety is more hardy than

the green-leaved. It will grow anywhere, but needs a good place to display its beauty.

When eryngos flower, autumn has come, and Nature prepares to strew with leaves the pathway on which Winter will steal with noiseless tread upon us. Hartley Coleridge caught the idea, and thus he sang of it :—

“ The mellow year is hastening to its close ;  
The little birds have almost sung their last,  
Their small notes twitter in the dreary blast—  
That shrill-piped harbinger of early snows ;  
The patient beauty of the scentless rose,  
Oft with the morn’s hoar crystal quaintly glassed,  
Hangs, a pale mourner for the summer past,  
And makes a little summer where it grows :  
In the chill sunbeam of the faint brief day  
The dusky waters shudder as they shine,  
The russet leaves obstruct the straggling way  
Of oozy brooks, which no deep banks define,  
And the gaunt woods, in ragged, scant array,  
Wrap their old limbs with sombre ivy twine.”







BOUVARDIA.

## BOUVARDIA.

*Bouvardia triphylla.*



INTER-FLOWERING green-house plants have been, within the past few years, considerably enriched by the introduction of improved varieties of bouvardias. They are all neat-growing and free-flowering shrubs, producing delicate tubular flowers in clusters; and, though none of them should be described as massive or showy, they are invaluable, whether as plants or as flowers, for various decorative purposes. More than this, they are particularly well suited for the greenhouse of an eclectic amateur, for they belong to a higher range in gradations of merit than many subjects that are in general favour, and they

require a little more care than the generality of plants that flower in the winter season.

Bouvardias are members of the great order of Cinchonads, and are, therefore, remarkably well connected as regards family relationships. In this order we find the trees that produce Peruvian bark, and with them such important subjects as coffee, ixora, rondeletia, manettia, gardenia, mussænda, and ipecacuanha. Of Dr. Bouvard, curator of the Botanic Garden at Paris, there is not much known; but we find in the books a treatise on the fungi of the forest of Mormal, published at Lille, but whether by the man of science to whom the genus Bouvardia is dedicated, we cannot say.

The Cinchonads agree pretty nearly in one of their requirements. When under cultivation they need more than the average warmth of the greenhouse, many of them being true stove plants, and a few requiring the hottest place in the stove. The bouvardia is an exception so far that greenhouse cultivation suffices for it; but to enjoy its beautiful flowers in winter, something approximating to stove culture must be practised. For keeping the plants in health a temperature of 35° to 45° Fahr. suffices during winter, but we prefer to get them forward for winter flowers, and to provide for them a temperature of 50° to 65°, with a rather liberal amount of atmospheric moisture, for when thus aided they bloom with delightful freedom, and there is nothing in the winter garland under glass that can surpass them.

Bouvardias may be grown from seeds and cuttings. In a garden of limited extent, propagation by cuttings alone should be practised, as it is at once certain, simple, and rapid. The cuttings should be taken from growing plants in the month of March or April, and planted firmly in sandy peat, and the process of rooting is promoted by



a kindly moist heat, say a temperature of  $70^{\circ}$ . The best soil for them is a good turfy loam, with a reasonable addition of sharp sand; but in good peat they grow freely. In any case, strong manures are rather to be avoided than used, although we must confess that we have often aided large specimens by administering weak manure water occasionally.

In the formation of specimens, the natural growth should be humoured rather than checked; but a moderate amount of stopping to promote the formation of side shoots, and to furnish the lower parts of the plants, may be advisable. Over-potting is to be guarded against, therefore there should be no shift until the pots are well filled with roots, when the next size should be used; not, as some over-hasty cultivators advocate, pots two or three sizes larger. The long rods that rise from the base indicate healthy vigour, and should not be stopped until they have attained their full length and are beginning to harden, when a moderate shortening may be performed.

To regulate the flowering time of all such plants is an easy matter. It may be reckoned that from six weeks to two months will be required from the last stopping to the time of flowering, according to the season. If they are to be allowed to flower at their own time, there should be very little stopping. But if they are required to flower at a particular time, then flowering should not be allowed in advance of that time, but should be checked by careful stopping, training, and a shift into the next size of pots when the roots need it. This practice will tend to the formation of large handsome plants, but must cease entirely six to eight weeks before the time at which it is desired they shall flower. It only remains then to leave them

alone, with no more shifting or stopping, keeping them warm enough and liberally supplied with water, with—if the pots are well filled with roots—weak liquid manure occasionally.

There are double and single bouvardias in cultivation, all of them exceedingly beautiful. A fine half-dozen for a comfortable greenhouse are: *Bridal Wreath*, white, very fragrant; *Queen of Roses*, rosy pink; *Hogarth*, rosy scarlet; *Dazzler*, full bright scarlet; *Alfred Neuner*, double white; *Jasminiflora*, white, fine for winter.

When they are to be wintered in a cool house, bouvardias may be planted in the open ground to make free growth from June to September.



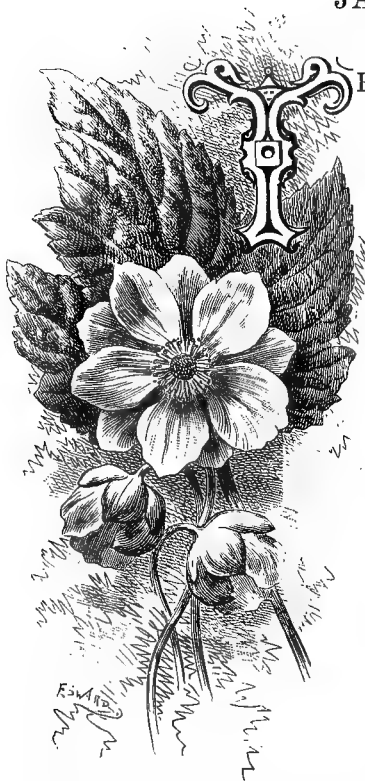




JAPANESE ANEMONE.

## JAPANESE ANEMONE.

*Anemone Japonica.*



THE white anemone represented in the plate is variously known as the vine-leaved, or *Anemone vitifolia*, and by a name that brings it nearer to us, as *Honorine Jobert*. It should be understood at the outset that it is the white form of *Anemone Japonica*, of which we have a purplish-red form that is regarded as the specific type. As a matter of fact, we know not which of the two should be regarded as the specific type; nor does it matter. If we ask the evolutionists to help us, they will be bound to say that the white is the original, the "real Simon Pure."

The vine-leaved anemone is a different plant, not so good as the one before us, but a near relative, and in all

probability a form of it, thus making excuse for the confusion that has arisen as to their supposed identity. *Anemone vitifolia* is a native of Nepal, in the shady valleys of which it is plentiful, and though not equal to our present subject as a garden flower, it is a delicate beauty, flowering earlier than the Japanese plant, and being less in size and less pure in its whiteness; it is, in fact, tinged with purple, red, or bronze, as influenced by soil and various degrees of exposure. This plant is figured in the *Botanical Magazine* (t. 3,376), from plants grown by Mr. Don, at Knyppersley Gardens, Congleton; but we owe the introduction of *A. vitifolia* to Dr. Wallich, who may be styled the father of Indian botany. In describing it he says: "It grows in all the forests of the great valley and the surrounding mountains, delighting in the most shady, retired, and moist situations in the vicinity of rills and torrents." The figure in the *Botanical Register* (t. 1,385) shows a larger flower and stouter growth than the *B. M.* figure, and will justify our regarding the vine-leaved anemone as the Nepal form of our *Anemone Japonica*.

To Siebold's "Flora Japonica" we are indebted for the first description of this anemone, but to our own Robert Fortune for the plant itself. It was figured in the *Botanical Magazine*, in 1847 (t. 4,341), by Mr. W. H. Fitch, the red form alone being then known, and the figure showing it in higher colour than we have ever seen in the flower itself, although familiar with it from its first introduction. Sir W. J. Hooker, in describing it, said: "I cannot but fear that what have been transmitted to our gardens exhibit strong marks of the flowers being double, which may account for the fact mentioned by Siebold of the seeds rarely coming to perfection." The "fear" entertained

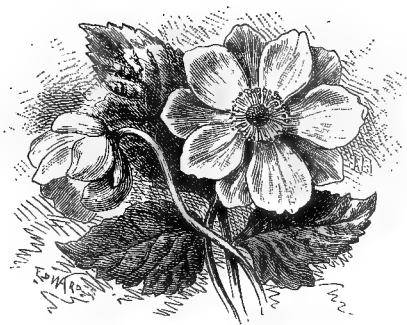
by the celebrated botanist it has been our fortune (or misfortune) to have realised, for a few years since, when botanising in North Wales with Mr. Alfred Slocombe, we met with *Anemone Japonica* in a garden at Conway in a completely double state. We must add that, having lost their central cluster of golden stamens, the double flowers were less beautiful than the single or semi-double examples common to our gardens.

The red form, then, was the one originally introduced. But the vine-leaved anemone, an older plant, served well as a complement to it, and but for an accident might by this time have acquired popularity as its proper companion in the hardy garden. The accident was the appearance in the garden of M. Jobert, at Verdun-sur-Meuse, as the product of the red-flowered anemone, of this lovely white form, which, in commemoration of its origin, was named *Honorine Jobert*. It is now, we hope, made evident to the reader that the name last cited is admissible for literary purposes, while the name often adopted for our subject, *Anemone vitifolia*, is inadmissible, because it represents the Nepal, and not the Japanese, form of the anemone. We have thus justified our head-line, this "autumnal white lily," as it has been playfully designated, being the white-flowering, and probably primal, form of *Anemone Japonica*, which "righted itself" by sporting from the red form in M. Jobert's garden.

The reader will not ask about the sowing of the seeds, because the story tells of the rarity of their ripening in this country, which Sir William Hooker unwisely attributed to the tendency of the red form to doubling. It must be understood that to obtain seeds is not a matter of routine, and for all ordinary purposes it may be said that

the plant does not produce seeds. However, that is of small consequence, because to divide the plants is an easy matter, and, moreover, every bit of the root will make a plant with skilful management.

The words of Wallich on the growth of the Nepal plant give the key to the cultivation of this beauty from Japan. It loves partial shade and moisture. For hot, dry, starving situations it is not well adapted; but, putting aside all extreme conditions, we may safely say that the Japanese anemone will grow anywhere.









PICOTEES.

## PICOTEE.

*Dianthus caryophyllus.*



PICOTEES differ from carnations in having the colour concentrated on the outer edge of the petals, whereas in carnations the colour is disposed in bands and blotches longitudinally. It is a question with the experts which is the oldest form of the flower, and that question is one of very great interest both to the florist and the student of the laws of evolution. Mr. E. S. Dodwell, a man of extensive knowledge, and a most successful cultivator of these flowers, holds firmly to the opinion that in the development of the flower the picotee appeared in advance of the flaked carnation. His theory is that the self-coloured flower

changed in the first instance to an edged flower, and that this became a carnation by the spreading of the colour from the edge towards the centre. We have held, and

still hold, that the carnation produced the picotee, which is the very opposite of the doctrine held by the gentleman named above. Our conviction rests on no hypothesis, but on recorded facts; still, as there is no finality in such matters, we leave the question to the further consideration of the reader.

Considered etymologically, a picotee is a spotted flower; and when a number of seedlings flowering for the first time are under inspection, it will be observed that the term is quite appropriate, for a certain number show a disposition in the colours to pass inward from the edge in dots and dashes. In Parkinson's "*Paradisus*," page 313, the figure of "*Master Tuggie, his Princesse*," will display a showy flower, with frilled edges and conspicuous spots, in respect of which the author describes it as "*very beautiful, and exceedingly delightful*." The truth must be told that this sort of thing is not now allowed. A picotee must no longer be spotted, but have a distinct and sharp marginal line of colour, the breadth of which will determine whether it is a light-edged or heavy-edged flower: those that are most prized having a very fine line of colour, which entitles them to be designated wire-edged.

The rules that now determine the degrees of merit in these flowers may be said to date from July 25, 1850, when a grand trial exhibition of carnations and picotees was held in the Royal Nurseries, Slough, and nearly thirty stands were put up, in addition to the blooms presented for class showing. This was followed, on the 7th of August of the same year, by a similar exhibition at Derby, when there were presented thirty-six stands of six, fifteen of twelve, and upwards of a thousand single specimens. It is a curious fact that at both these brilliant encounters the

principal first prizes were carried off by Mr. Charles Turner and Mr. E. S. Dodwell, the first representing the commercial cultivators, the second the amateurs. The fact seems to prove the rarity of first-class skill in handling these flowers, for with any approach to equality of power in the competitions the prizes must have been more freely divided.

The National Carnation and Picotee Society, founded in 1851, has established on a firm basis the standard of technical merit in these flowers, while leaving a liberal margin for the introduction of new forms, should they arise, as also for new methods of displaying them, for it is only in certain classes that strict compliance with fixed rules is required. The picotee class has acquired special and peculiar interest, from the introduction of flowers with a yellow ground and sharply-defined and brightly-coloured edges. It is no new thing to see yellow in these flowers, for Parkinson rejoiced in the "yellow or orange-tawny gilloflower." But the yellow-ground picotee, as now known, is a modern creation, for which we are indebted to Mr. Richard Smith, of Witney, Oxon., who, in the year 1858, in the exhibition at Moira, took all the prizes offered for flowers of this class. He had refashioned it by crossing and selecting, and he had his reward. Among the finest yellow-ground picotees seen by the present generation of florists was one shown by Mr. James Douglas, of the gardens at Great Gearies, Ilford, in the exhibition of the National Society, 1886. It bears the name of *Annie Douglas*, who should be proud of her own and her father's flower.

It may be an advantage to amateur cultivators of these flowers to remark that they are less hardy than carnations,

and require more care to take them through the winter. The finer kinds should be potted in the autumn, and kept in a frame or airy greenhouse until the spring, when they may be planted out, or flowered in pots, at discretion. For the general potting-up of rooted layers, the favourite date with growers in London, and as far north as the Trent, is October 20th; beyond Trent, an earlier date is required. If potted too early, they make more growth than is desirable before winter; but if too late, the winter cripples them.

It has been urged, and it may be again urged, that carnations are most useful flowers for town gardens. The same cannot be said of picotees, and, therefore, the town amateur may be advised not to speculate in picotees until he has acquired some experience with their more hardy relatives.





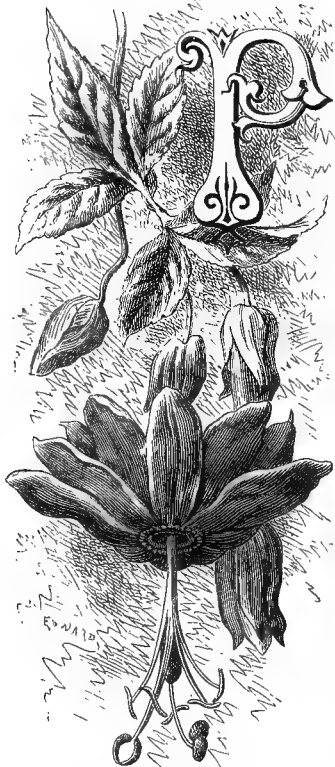


TACSONIA.



## TACSONIA.

*Tacsonia Van Volxemi.*



ASSION-FLOWERS and tacsonias are so nearly related, that it is for botanical rather than horticultural purposes that they are separated, as will be shown in the Synopsis, where technical matters admit of treatment more conveniently than here. It may be stated at once that the plant represented by the accompanying plate is the finest climber known to cultivation for a spacious conservatory or cool plant-house. A temperature not lower than  $40^{\circ}$  will keep it safely through the winter, and from May to November the natural temperature suffices; or, in other words, it needs no aid from artificial heat except during the four or five

winter months, and then only sufficient to keep it safe from frost. It is of no use to plant this rampant grower

in a small house; and to attempt to grow it in a pot is about as unreasonable as to attempt to raise eagles in canary cages.

There are times when "comparisons are odious;" in the present case they might be ridiculous, for there is no plant at our command that could be put before, or even beside, this magnificent beauty; for even the lapageria, lovely as it is, becomes nothing when we have seen *Tacsonia Van Volxemi* in a thorough state of prosperity in a great conservatory, where it is quite at home.

All the passion-flowers and tacsonias are natives of South America; and although a certain number are strictly tropical, not a few of the most beautiful are met with in temperate regions. M. Van Volxem, a Belgian amateur, met with this plant in a garden at Bogota, whence it was taken to Belgium in the year 1858, and very soon thereafter made its way into many European gardens. It has been found also in the Quindiu Andes, at high altitudes. It was probably first flowered in this country in the Exeter Nurseries of Messrs. Lucombe, Pince, and Co., for Sir Joseph Hooker was indebted to that firm for the first plant presented to the Royal Gardens, Kew, from which the first figure published in this country was prepared, to make known the wonder unto many (*B. M.*, 5,571).

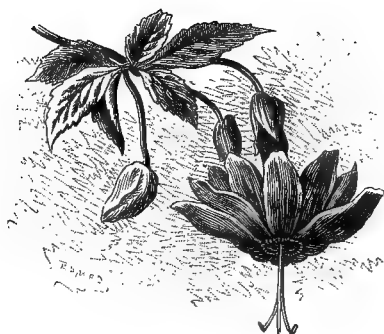
Its comparative hardiness is no matter for surprise, for M. Van Volxem reports that it resists a temperature of freezing-point in its native country; but it should never be exposed to a condition so severe in cultivation, for as a matter of fact, no plant is so hardy under cultivation as when living its own life and managing its own affairs. The grandest example that we have seen of this plant is in a great conservatory used for a store-room for giant

tree-ferns, palms, and cycads, in the gardens of Eastnor Castle, the residence of Lady Henry Somerset. The plant clothes the whole of the roof structure, and from the rafters that support it sends forth innumerable pendent garlands of the richest leafage, abundantly adorned with the glowing flowers. Mr. William Coleman, the talented head-gardener there, may boast that from a plant a foot long he has developed the grandest flowering climber in the kingdom.

The first thing to be done for this and any other tacsonia is to prepare for the roots a capacious border of mellow turfy loam ; the drainage must be perfect, the soil must be deep. The next business will be to put in the plant. We might say "plants," but, generally speaking, one is enough for a house of great size. The best time for planting is in spring, before growth commences, and the planting should be done with care, to insure the spreading out of the roots and their being covered with three or four inches of fine soil. From the time of planting water must be given occasionally, but in moderation, for until the roots have become active frequent watering will prove injurious. But when in free growth, the plant will need an abundant supply ; and when two or three years have passed, the border should be annually refreshed with a top-dressing of fresh soil, the upper crust of old soil being removed to make room for it.

The propagation of tacsonias and the like does not come within the range of an amateur's operations ; but this essay would be incomplete were the subject excluded from notice. Tacsonias are usually raised from cuttings of young shoots, which root quickly in a propagating house, or on a hotbed that is in good working order. The cuttings should

be about six inches in length, and should be potted singly in five-inch pots, with sufficient drainage, and a soil of equal parts loam and sand. They must not be shifted from these to larger pots, for the object is to secure strong young plants, with a good ball of roots to begin life with when planted out.







## TORCH LILY.

*Tritoma uvaria.*



FAMILIAR name is not often so obviously justified as the name of the flower before us; a less elegant but quite appropriate and even more familiar name for it is "Red-hot Poker." Whatever may be said for its beauty, it is certainly the most striking flower for its season, making a fiery glow in the shrubbery borders and a genuine conflagration in the parterre. It is scarcely a proper subject for the parterre, perhaps; in any case, to plant tritomas in masses is a bold proceeding, needing a little extra care to avoid a violation of good taste. We have used them in masses with sin-

gularly good effect in a country garden, where there were ample breadths of grass and trees. The tritomas

were in large, long beds, and mixed with them were lilies, and the outer boundary was made up with agapanthus, which, as a hardy plant, flowers at the same time as the tritoma, and, when established, flowers as freely.

The flame or torch lily will thrive in any good soil, but a deep sandy loam is certainly the best for it. Occasionally it produces seed freely, but we must confess we never took the trouble to sow any, because we could always obtain as many plants as were required by the simple process of division, which not only multiplies the stock, but insures flowering plants at once, without the necessity for nursing. It has been our rule, in dividing tritomas, agapanthus, crinums, and other such plants, to pot the divisions in the smallest pots possible with sandy soil, and so keep them until growing freely, when, the pots being filled with roots, they may be planted out with safety. In places where the climate is genial and the soil dry, the divisions may be planted where they are to remain, for there will be but little risk of failure. These fine plants are thirsty subjects, and if it be possible to supply them with abundance of water during hot, dry, summer weather, they will repay such attention with liberal interest. But it is of the very first importance that the ground they occupy should be reasonably dry during winter. A boggy or sour situation will insure the death of many in a severe winter, but on well-drained land these plants are perfectly hardy; and if killed down in spring, as will sometimes happen, they will in due time renew themselves from the roots, if left undisturbed and kept free from encroaching plants that might spread over and injure them.

Tritomas are natives of South Africa, and members of the great order of Lilies. There are not many species, and



the few recorded are more than are wanted, if their value is to be estimated from the gardener's point of view. We begin with *T. uvaria*, as the best of the group in respect of hardiness, amplitude of dark, rigid leafage, and an abundant production of its cylindrical racemes of fiery flowers.

The varieties known as *T. glaucescens* and *T. Burchelli* have no special value as garden flowers, but will prove interesting to amateurs whose tastes range freely amongst plants. But for *T. nobilis* and for *T. grandis* a good word may be said. These are noble plants, and have a remarkably fine effect when well placed in a spacious rockery. *T. nobilis* is scarce and dear; *T. uvaria* is plentiful and cheap, and the best for all general purposes, though in character below that of *T. nobilis*.

*Tritoma caulescens* is a beautiful plant, with peculiar glaucous leafage and a stout stem, bearing a dense head of flowers of a fiery-red colour passing into yellow. It is strikingly distinct, and a proper adornment of a roomy rockery, where it should have a sunny situation on a well-drained sandy soil. It is hardy, but unequal to the endurance of severe conditions; therefore it is advisable to give it some protection during frosty weather.

*T. carnosa* is a good plant, of smallish growth, forming a series of tufts, from which rise the flower-stalks, a foot or more high, bearing crowded flowers of a rich orange-buff colour.

*T. Macowani* is a pretty little plant, usually regarded as requiring greenhouse cultivation, although it is probably hardy. The flowers are in a dense cluster, the tube red, the mouth yellow.

*T. Rooperi* is a grand plant, from British Kaffraria.

The leaves are broad, and average eighteen inches long ; the flowers appear on a stout stem, and form a club-like mass, brilliantly coloured red and yellow. It is as hardy as *T. nvaria*, and flowers later.

In gardens that afford accommodation for interesting plants of robust habit many fine subjects may be associated with tritomas. Not a few of these are also lilyworts, such as asphodels, fritillarias, day lilies, funkias, or plantain lilies, phormiums, yuccas, and aspidistras. The closely-allied order of amaryllids will supply for the same purpose, crinums, alströmerias, and vallotas. For the cool plant-house the last-named order gives agaves, clivias, doryanthes, and true amaryllis, all of them having high claims on the attention of amateurs who are not wedded to the commonplace in the pursuit of pleasure in the garden.







## SINGLE DAHLIA.

*Dahlia variabilis.*



ASHION brings into operation principles that are at once shallow, subtle, and complex. Previous to the year 1850 single dahlias were not in high repute, and, in fact, were scarcely known. Then, like some sky-rockets properly made and effectually lighted, they soared upwards, shedding new light on society, and, by a false glitter, filling the sky with imitation stars. Well, "It is an ill wind," &c. The suddenly-acquired popularity of the single dahlias drew attention to the double dahlias, which at that time were under a cloud, and immediate results were the formation of the National Dahlia Society,

and the holding of a series of annual exhibitions in the Crystal Palace, Sydenham, for the advancement, not of

the doubles only, but for all kinds of dahlias, including the pompons and lilliputians, that are so signally serviceable for decorative purposes. Thus the single dahlias have accomplished some good in their new career, and while so employed have made a triumph of another kind, and one considered to be on the verge of the impossible: they have given society a new pleasure!

The dahlia was introduced from Mexico in 1789, and was named after Dahl, the Swedish botanist. There happens, however, to be a genus of fabaceous plants named *Dalea*, and, to prevent confusion, the new arrival from Mexico was renamed *Georgina*. But Dahl prevailed; the confusion that was feared never happened, and the disused name *Georgina* is still at the service of the botanists when events shall make excuse for using it. The first species of dahlia introduced was that called *superflua*, which does not mean that the plant is, in colloquial terms, "superfluous," but that it belongs to the Linnæan section of composites called *Syngenesia superflua*, in which the florets of the exterior differ from those of the centre of the flower. This same *Dahlia superflua* has been renamed *variabilis* and *crocata*, the first of these two being now generally adopted as indicating the variable nature of the plant to which we are indebted for our magnificent series of garden dahlias.

There is no risk incurred in the broad statement that the dahlia is entitled to stand in the very front rank of garden flowers. There is nothing easier to grow; there is nothing to which it may be properly compared that so rarely fails to satisfy; and there is absolutely nothing that could take its place for the same season, were it blotted out of existence. A plantation of dahlias will keep flowering

most abundantly for nearly four months ; and even in the middle of November they will still be bright and full of flower, and will so continue until a decided frost occurs, which, of course, will effectually close their gay career.

To grow dahlias for exhibition demands skill and the enthusiasm that delights in conquering difficulties. To grow dahlias for delight is such an easy matter, that it is enough to plant the roots in April or May, and do nothing more but keep down weeds and wait patiently for mountains of flowers. The dahlia is, in fact, a flower for everybody, and any soil or situation will produce dahlias ; for dahlias share with chrysanthemums the honour of brightening back yards in smoky towns, these two beauties being the flowers of all flowers in smokeland. To this it should be added that in a rich soil—and it can scarcely be too rich—and in country air, dahlias attain to a perfection that is not possible under less favourable conditions ; and thus we present the two sides of dahlia culture, with the happy conviction that they are both bright sides, and differ but in degrees of brightness.

The routine of dahlia culture consists in starting the roots into growth in heat in March, and striking cuttings of the shoots produced to provide plants for planting out at the end of May. They should be put at from two and a half to five feet apart, according to the relative vigour of the varieties, the grand show class requiring a space of at least four to five feet from plant to plant. They must be well supported with stakes against the wind, or they must be made to support themselves by a clever twist that snaps but does not break the stem, and compels them to sit on the ground, as it were, and form spreading bush-like instead of tree-like masses. When in autumn frost has

blackened the tops, the roots are lifted and stored in dry earth in any shed or cellar, in the same way as potatoes, for they are as hardy as potatoes, and need no more care for their safe keeping.

Since the single dahlias have become popular, many persons have taken to raise dahlias from seeds, a practice that was left entirely to the florists previously. This is a very simple proceeding. The seeds are sown in light, rich soil, in February, and the young plants are raised on a hot-bed or in a warm plant-house, and have careful nursing to be stout and strong for planting out in June. Dahlias grow slowly for some time after being planted, and all the slugs and snails in the parish will scent them, and taste them if allowed. One settled mode of protecting them is to provide a crop of lettuces on the ground, for the vermin will feast on these and leave the dahlias alone, and in due time the lettuces, having served their purpose, may be taken away.

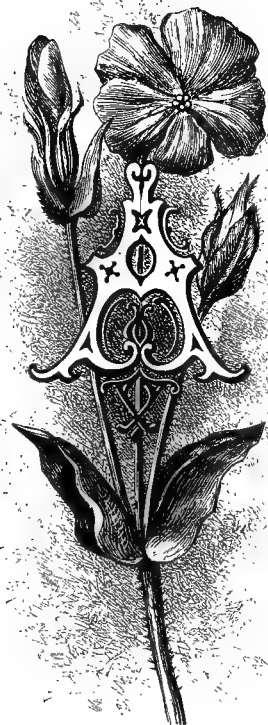








ROSE CAMPION.



## ROSE CAMPION.

*Lychnis coronaria.*

PLANT may be common and yet have an uncommon appearance, as may be seen in the example before us. The rose campion, which is now classed as a *lychnis*, but may with propriety be catalogued under its other name, *Agrostemma coronaria*, is as common as any good garden plant known. But it is peculiarly distinct, and may be recognised at any reasonable distance by its hoary leafage, its forked style of growth, the arrangement of the leaves in pairs, and the splendour of its solitary flowers. The rich purplish-crimson of these can never

be imitated by the art of man, and when we see the best possible picture of them we must ask with Thomson, "Who can paint like nature?" and take the negative reply he gives. We may see in stained glass, when the sun shines through and floods the pane with fiery hues, a near approach to the transparent and delicate but intense richness of this

flower. But there is little need for a perfect imitation when the reality is at the command of all, for in the spring season the huckster florists sell rose champions at a penny each; they will grow almost anywhere, and whoever would despise them for their cheapness would deserve to see no more flowers in this world, whatever he might see in the other.

A small story may be worth telling, and here is a very small one of which this plant is the subject. A few years ago we visited a millionaire in a famous centre of manufacturing industry. The gardens were reputed to contain four acres of glass, devoted for the most part to grapes, pines, and peaches. The residence was a castle of high renown for political influence and princely hospitality. In making the tour of the gardens, and passing from begonias to bananas, and from orange groves to houses filled with orchids, we were invited by the head man to turn aside to see something "special." This proved to be a clump of the common rose champion that had located itself near the foot of a tree and had made a tremendous growth, and was then covered with delicious flowers—a penny plant prized by the millionaire and almost worshipped by his gardeners!

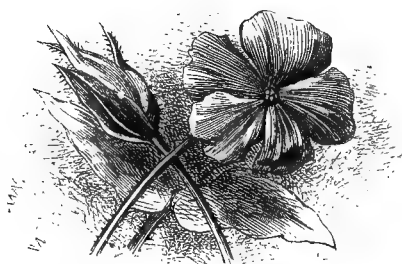
There are three forms of this plant in cultivation, comprising the single red (here figured), the single white, and the double red. John Gerarde figures the two single kinds in his usual truthful manner, and he records that in 1597 they were growing "plentifully in most gardens." He speaks of the soft leaves as being "fit to make candle weekes," and refers to the brightness of the flowers as suggesting the names by which it appears they were then known, as in English, the "gardner's delight, or gardner's eie; in

Dutch, Christes eie ; in French, œillets, and œillets Dieu." It was also known as the rose of Mary and the rose of Heaven. In respect of its properties, it was classed by the herbalists with the thousand and odd plants that were considered of sovereign use against the bites of scorpions, a feature of our English writers on plants that betrays at once their indebtedness to the herbalists of Southern Europe, and their want of discretion in copying for readers utterly ignorant of scorpions, except as revealed in museums and books.

With a woolly plant before us, we may ask, "What is the use of vegetable wool?" In the arts it is comparatively valueless, but as a part of a living plant it is of considerable importance, and, *à priori*, it is fair to assume that the plant could not well do without it. The "wool," of which the common mullein affords a familiar example, consists of closely-packed jointed hairs, which are a veritable extension of the cellular tissue, and exercise a powerful influence in the life-economy of the plant. When the earth is parched and the root finds no moisture, these hairs promote a copious condensation of the night dew, which trickles down to the blade of the leaf, and thus they serve as food-collectors, as do the tentacles of an anemone or the cilia of an animalcule. But when the dry heat of the day returns, they serve to protect the sensitive leaf-surface from which they spring; and, in fact, the "wool" is to the plant a protector at all seasons against extreme conditions. We meet with hairy and woolly plants in all kinds of situations; but they appear to be in a special manner adapted to the mountains and the deserts, where keen frost, copious dews, and great heat and drought are characteristics of the average con-

ditions of plant-life. The plants that sting are rendered offensive by the poison glands that accompany the hairs with which their leaves are beset; these are brittle, and at a touch they part from their attachment and burst and diffuse their acrid secretions. The most terrible of all stinging plants is the devil's leaf (*Urtica urentissima*), which sometimes causes death by tetanus.

Amongst the plants nearest allied to the rose campion we must name the corn cockle (*Agrostemma githago*), a fine thing as a wilding, and occasionally seen in gardens. Better, however, than this are the scarlet lychnis of China (*L. grandiflora*); the shaggy lychnis (*L. Haageana*), the petals of which are curiously horned; Siebold's lychnis (*L. Sieboldi*), with terminal heads of beautiful white flowers; and the German catchfly (*L. viscaria*). These are worth a place in the very choicest selection of hardy plants.





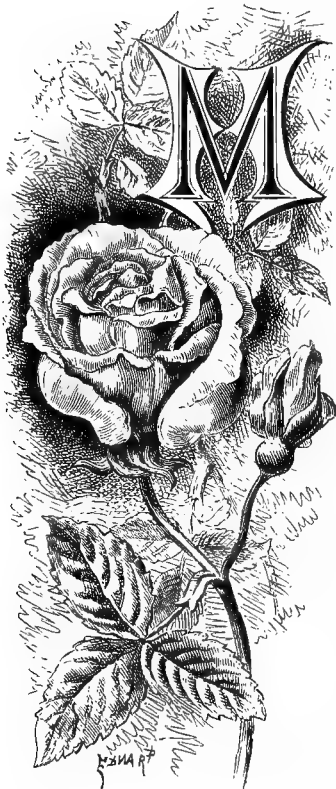


MARÉCHAL NIEL ROSE.



## MARÉCHAL NIEL ROSE.

*Maréchal Niel.*



ARÉCHAL NIEL, who conquered the Malakoff at Sebastopol in 1855, helped to gain the Battle of Solferino in 1859, and filled the post of Minister of War in the French Government in 1867, is commemorated in the name of the finest of all yellow roses, which very nearly satisfies the immense requirements of one that may be characterised as the best of all the roses in the world. When well grown, and in perfection of flower, it is not within the power of the most learned rosarian to name a better variety; but that does not settle the question. One fault it has, and the only one we shall dare to name: it is not sufficiently hardy, and

only in specially favoured places will it give complete satisfaction without the aid of glass. This point must be kept

in mind by the amateur. It is not here declared that glass is absolutely needful, for in truth we know of hundreds of gardens in which it is not only prosperous, but profitable, on open walls—as, for example, the famous Calcot Gardens, near Reading, where flowers are cut in great plenty for Covent Garden Market at a time when the value of each flower is represented by a silver coin, and not many are required to touch gold. But the fact remains, that though in some districts hardy enough, yet in many places, even in the south of England, the *Maréchal Niel* rose requires the help of glass.

The golden *Maréchal* was raised by M. Pradel, a great rose-grower of Montaubon, and first appeared in this country in the year 1864. To this gentleman the rose world is indebted for many exhibition roses—as, for example, *Duc de Nassau*, *Madame Ristori*, *Vicomtesse de Cazes*, and others.

The *Maréchal Niel* rose is certainly tintured with the blood of the famous *Gloire de Dijon*, raised by M. Jacotot, of Dijon, and made known in this country in 1853. It is less hardy than the *Dijon splendour*, but of similar growth, being vigorous to a wonder, noble in leafage as well as in flower, profuse in its liberality of bloom, of fine form, delightfully sweet, and though varying from creamy primrose to something like an orange, as influenced by circumstances, having for its proper colour a rich buttercup yellow, a delight always, even in a ribbon for a brunette.

For complete success in the cultivation of this rose a spacious house and a good border are necessary. It must have free warren in a rich deep soil for its roots to forage, and plenty of room to run next the glass, with free ventila-

tion at all times, and sufficient heat in winter to exclude frost. It will submit to moderate forcing for an early bloom; but the cultivator must be cautious to use always the least possible amount of artificial heat for the purpose in view, for there are no roses, whether hardy or tender, that can endure a high temperature, except it be in summer, when growth is vigorous and air can be admitted freely. The result of injudicious forcing must always be a plague of insects first, and mildew to follow, with a bloom wanting in quality, and more especially wanting in colour.

The choice of the roots for any rose is always a matter of importance. This fine variety, in common with many others, thrives on its own roots; therefore when raised from cuttings is likely to prosper. But it does not thrive on the generally useful Manetti stock that is so largely employed in the propagation of useful garden roses. In all rose gardens the practice of the propagator is to bud *Maréchal Niel* on the English briar; and it appears to be well situated for healthy growth on briar stocks of three to five feet high. The amateur is, therefore, warned against experiments that may end in disappointment. There may be many suitable stocks for *Maréchal Niel* in addition to the English briar, but we do not know of them. The reader who is disposed to find a better may, for a first trial, try Mr. Bennett's grand rose *Her Majesty*, for that appears adapted to serve as a stock for the most vigorous-growing roses, such as the *Maréchal*, *Gloire de Dijon*, and the race of vigorous hybrid Bourbon roses.

The grave question of the pruning comes in here. In a few words we shall be enabled to combine a general with a particular lesson. In the first place, then, those who do not know exactly how to prune should not prune at all. This

applies to fruit trees, roses, and to trees and shrubs of all kinds. Generally speaking, fruit trees bear earlier and more abundantly when left entirely unpruned, for Nature is generous, and prefers her own modes of management. In the next place, when pruning is to be done, the manner of the growth should give the key to the method. The more vigorous the growth the less severe must be the pruning, for it is evident that long rods are required, and if we shorten them with a bold hand we may promote wood growth, and have no flowers. But roses that make but a moderate growth may be cut in rather closely. It suits *Maréchal Niel*, and *Gloire de Dijon*, and all other vigorous-growing roses, to be left their full length; but when any long rod becomes exhausted, it should be cut clean out from the base, and its place will soon be supplied with a vigorous young cane, which will, if allowed, accomplish all that is required of it.









## MIGNONETTE.

*Reseda odorata.*

PLANT may have no history, and yet be full of fame. It is so with the mignonette, which was unknown to the authors of the best of our old English gardening books, and the history of which may be written on the thumb-nail. It is a plentiful weed in Northern Africa, and more particularly in Egypt, whence it travelled to Italy, and made its way northward. In 1742 Lord Bateman saw it in the Royal Garden of Paris, and secured seed for its introduction to this country, where it soon became as

famous as in France, its delightfully fresh perfume being a sufficient recommendation. The French gave it the familiar name it bears of "little darling," and none would desire to improve upon that. It is never spoken of as a *reseda* except in botanic gardens, and the most enlightened company would be nonplussed if one were to

remark on the sweetness of *Reseda odorata* without at the same time giving it the name by which it is more commonly known.

The mignonette is an annual or a perennial, at the command of the cultivator. At the moment of writing this we have near at hand plants of gigantic stature, that have flowered almost continuously winter and summer through a term of seven years, and appear capable of continuing the delightful performance for seven years more, if aided with a reasonable amount of care. Any one who has a greenhouse may easily grow mignonette to a great size, say, for example, to the stature of a man, and of breadth proportionate to form a noble tree, the two requisites being a rich light soil and complete immunity from frost, in a house well supplied with air and light. At the moment of writing this we can see on a garden border a patch of self-sown mignonette, and by this example we can rank it with the weeds of the garden. Indeed, for many years past we have always had as much outdoor mignonette as we needed without sowing a single grain of seed. The self-sown plants scatter seed freely, and we have to destroy a considerable number of the plants that appear uninvited and in excess of requirements. Thus we have presented the two extremes of mignonette culture; but we must add that the pot culture of mignonette is the most remunerative, for well-grown specimens are unique in beauty, and their fragrance in the conservatory or dwelling-house is invaluable.

It was a happy thought of the man who first entered upon the work of improving the mignonette. We call to mind the time when only one sort was known, and now we can find a round dozen. They are not all good; but two



or three of the number are characterised by fine qualities of colour, growth, and perfume. The most distinct of the varieties are the following :—*Parson's White* has white flowers, and for that reason is interesting; another of the same class is *Garraway's White*. These are of quite secondary importance; they are scarcely white enough to attract attention, and they are somewhat deficient in constitutional vigour. *Miles's Spiral* has the yellowish-brown flowers of the common sort, but a fine, compact habit of growth, the flowers appearing in numerous bold spiral clusters. The *Tall Pyramidal* is of vigorous habit, and well adapted for pot culture to form handsome specimens. The very best of the series is the one called *Golden Queen*. This is of dwarf, but robust, habit; the flowers are of the colour known as "old gold," and a well-grown bed or clump has a distinct and pleasing appearance.

The most useful form of mignonette is in small pot specimens, which may be destroyed after one season of flowering. The seed may be sown at any time; but the usual time of sowing is the month of August. About half a dozen seeds are sown in a five-inch pot, the soil employed being a rich, light, loamy compost. When the plants appear, all but the three strongest are removed. A light, warm, airy place in the greenhouse is selected for the plants, which soon make a healthy growth, and flower from Christmas until late in the spring, giving from first to last the least imaginable amount of trouble, and proving their usefulness by the delight of every one who can see or smell them. When large specimens are required, the seed should be sown in three-inch pots, and one plant only left in the pot to grow. This must be shifted into a five-inch pot as soon as it needs more root room, and again to a six

or eight-inch pot, great care being taken to prevent any injury to the roots. A certain amount of training will be necessary to form a handsome tree, and the golden rule must be observed, never to allow it to ripen a single seed ; in fact, the seed-pods should be assiduously removed as fast as they appear.







GIANT BALSAM.

## GIANT BALSAM.

*Impatiens glandulifera.*



OLI ME TANGERE" are brave words for a shield or banner, but with the lovers of fun in ancient Rome it was an expression of irony, and had reference to temper rather than courage, or to a calamity of the nose rather than to stoutness of heart. In later days these words had a more solemn signification in connection with pictures in Christian churches illustrative of a moving episode in the New Testament story. When the balsam was first called "Touch-me-not" it would be hard to say, but the name reaches far back in the usage of gardens.

It is a question if any balsam can be considered a native of Britain. We have, however, two British species in the books. They are

*Impatiens noli me tangere*, the yellow touch-me-not, found in Northern England and Wales, but not in Scotland or Ireland; and the coppery touch-me-not (*I. fulva*), to be found only in a few places near rivers in the county of Surrey. The giant balsam, rising to the height of a man, with coarse but somewhat noble herbage and handsome purple or rosy flowers, is *Impatiens glandulifera*, so called because of the glands at the base of the serratures; it is a native of Northern India.

It is easy to demonstrate the appropriateness of the familiar name of this plant, and any kind of balsam will serve the purpose. When the seed-pod is ripe, a touch causes it to explode and scatter the seed far and wide. Nature has various ways of distributing the seeds of plants: some are furnished with wings, and fly to new pastures; some attach themselves to the animals that browse amongst them, while others are swallowed with herbage as food, but resist the action of the digestive organs. There are many that are discharged by the plants into space, such as those of the violet, the squirting cucumber, and the balsam.

It is common to see in half-neglected gardens great masses of the three balsams mentioned above, the consequence of the freedom with which the plants scatter their seeds from year to year. It often happens that the yellow and the purple get mixed together, and a difficulty arises as to their identification. It may be useful, therefore, to the reader if we briefly describe each so far as regards their distinctive characters.

The yellow balsam grows one to two feet high; the stems are swollen at the nodes, the leaves are pale green, toothed, flaccid; the perfect flowers grow on axillary stems,

singly or in pairs, the hooded sepal ending in a long spur, which is bent back upon the flower. It is a curious fact that these flowers, which are so particularly noticeable, are infertile; the seeds are produced by minute, imperfect flowers that are seldom noticed by anybody.

The copper or orange-coloured balsam resembles the yellow, except that the flowers are of a deeper colour, spotted with reddish-brown, and the spur is very closely bent back, and slightly notched at the extremity.

The glandular balsam rises to six, eight, or even twelve feet, and is of coarse though noble growth in a rich soil when aided by a rainy season. In a dry season it makes a good growth, and scatters seed freely; but it is evidently a rainy-climate plant, and makes a grand appearance in the autumn following upon a wet summer. The leaves are three to five inches long, ovate, sharply serrated, the serratures at the base being glandular. The flowers appear in clusters of three or more, and many of these clusters being closely associated, and all arising from axils of leaves, constitute a large leafy corymb or panicle. The flowers are large, and of various shades of purple; the seed-vessels, when ripe, burst on the slightest touch with much force, and the seed is sent flying in all directions to a considerable distance from the parent plant.

From the interesting family of balsams our gardens have derived a few of their choicest treasures. The very useful *Balsaminea hortensis*, which is the balsam of the flower garden, we have spoken of. But we should now mention two that are less known, but quite worthy of a place in our budget.

Hooker's balsam (*Impatiens Hookeriana*) is a native of Ceylon, requiring stove culture to insure a display of its

curious flowers. These are of large size, white, with a few red stripes; the spur is long and stout, and curved in a half-circle when the flower is mature, but when in bud, it forms beneath the bud a large circle, like a big letter O.

Mrs. Jerdon's balsam (*Impatiens Jerdoniæ*) is a beautiful curiosity, native of the Neilgherries, requiring warm greenhouse cultivation. The stems are almost tuberous, and in any case noticeable for their swollen appearance. The leaves appear only on the upper part of the gouty stems; they are ovate, and at their junction with the petiole there are two or three purple glands. The flowers are brilliant red and yellow, with a very short spur,

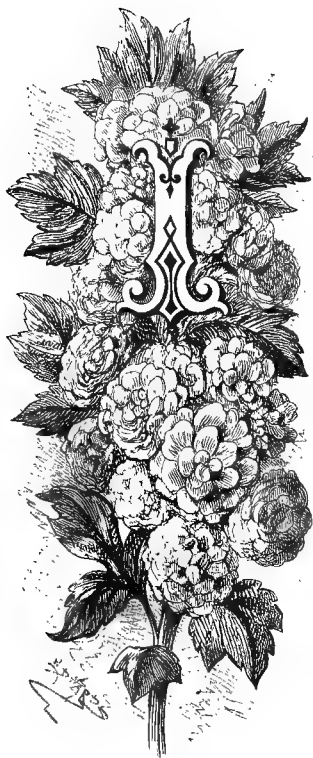








HAWTHORN.



## THE HAWTHORN.

*Crataegus oxyacantha.*

IF the “milk-white thorn that scents the evening gale” had, as a literary subject, been “unattempted yet in prose or rhyme,” the temptation would at this moment be too strong to be resisted. But turn to the books, dear reader, and see that whoever could say or sing something in its praise has made the most of his advantage. The history of the thorn has in consequence grown to vast proportions. We may therefore devote the small space at our disposal to a new essay on the place of the thorn in the garden; and we begin by saying that the double variety here figured represents a very important and splendid section

of thorns that, in the most proper sense of the term, may be described as pictorial and garden trees.

It may be said of the thorns that they are more accommodating than any equally handsome class of hardy

deciduous trees. Go to Lincoln's Inn Fields in June, and there you shall see, flowering freely, a fine collection of varieties of *Cratægus oxyacantha* in a most thriving state in the very heart of smoky London, where earth and air have been poisoned by coal-smoke for centuries. Go to Troutbeck in July, and walk up the Vale to Kirkstone Pass, and you may see thousands of hawthorns blooming gaily, and you may note by the herbage and the colour of the soil that they are all located on a basis of starvation, where oaks and elms would no more grow than they would on a cheese-plate. And you may go to Cobham Park, and see huge "creeping" thorns thriving in a good soil that produces the finest timber; and after this, wherever you meet with thorns, you will probably note that they are almost careless of conditions, as though endowed with a special power of adapting themselves to any circumstances short of being made into faggots and put upon the fire. And they adapt themselves to that fairly well, for thornwood is capital fuel, but the adaptation is of quite a temporary nature.

The inexperienced observer who notes the immense difference between the "hawthorn in the dale" and the double-flowered tree of the garden will be disposed to regard them as distinct species, for indeed the distance in time as well as in appearance from one to the other is great. Nevertheless, the nature of the transition may be studied on the hills and in the woods, for there will be found among the wild thorns examples varying in the colours of their flowers from the purest white to several shades of blush, flesh, and rosy pink; and the scientific observer will readily and properly conclude that by systematic selection and raising plants from seed many fine varieties might soon be obtained, even if our present

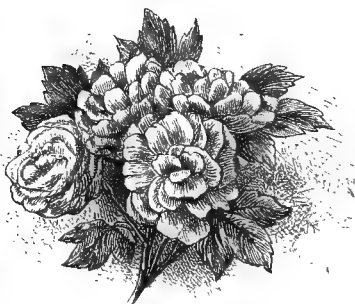
grand group were obliterated. We have noted many interesting "sports" on our own pink and scarlet thorns that only needed to be "fixed," by grafting and other modes that are commonly pursued, to prove useful additions to the lists of established kinds.

In selecting thorns for the garden it will be well to ensure a goodly proportion of the single scarlet and pink varieties, for these make a double display, their red berries being fully as ornamental in autumn as their beautiful flowers are in the early summer. Moreover, where there are plenty of haws there will usually be plenty of birds, and the glorious song of the thrush is as much to be desired in a garden as any of its other delights. Of the splendour of the double varieties there can be no question at all, but they produce no berries, and the individual flowers are, in our opinion, far less beautiful than the single kinds. But tastes differ; and on that point we shall say no more, as we shall find matters of fact enough to fill out our pages.

A selection having to be made for the borders and shrubberies, it will be proper to suggest that the Glastonbury thorn should be included in it. This is the variety that is said to flower on Old Christmas Day, and we have actually seen it in flower on the 6th of January on our cold land in the Valley of the Lea; but it has happened only *once* in the course of nearly thirty years. At Glastonbury and elsewhere in the west of England the event may be looked for whenever mild weather occurs at midwinter, and in that is to be found one of the points of interest attaching to this variety. Amongst other points of interest must be noted the fact that this variety produces a brilliant show of large golden-green leaves long before any other

thorn shows the faintest glimmer of greenness. Therefore if there is a sheltered nook near the house in which a thorn may be planted with propriety, then the Glastonbury thorn is the very tree for that nook, because it will make a cheerful object in the view from the windows in those early spring days when new leaves and flowers are eagerly looked for as spiritual food to revive us from the depressions of the winter. The true story of the Glastonbury thorn, as told in the *Gardener's Magazine* for Dec. 21st, 1878, is much more wonderful than the legendary nonsense that is retailed in guide-books, and makes it appear that the tree came originally from the East, and established itself at Glastonbury in a natural way and without the help of any miracle.

“ Gives not the hawthorn bush a sweeter shade  
To shepherds looking on their silly sheep,  
Than doth a rich embroider'd canopy  
To kings, that fear their subjects' treachery ?”







CHRYSANTHEMUM.





## CHRYSANTHEMUM.

*Chrysanthemum Indicum.*

CHRYSANTHEMUMS have been known in Europe for fully two hundred years, yet they have been but recently "discovered," for as a familiar garden flower the history of the plant dates from the year 1843, when the first public exhibition of chrysanthemums was held in the ancient city of Norwich. Very soon thereafter followed the formation of the Stoke Newington Chrysanthemum Society, the first exhibition of which was held in the year 1846. This society may be regarded as the parent of a

thousand, for although three years later in its birth than that at Norwich, it has served as the model for all similar societies, and as the school of chrysanthemum culture for the whole world. During a run of about forty years the village that has become so identified with this flower was better known to the floral world than any other suburb

of London, for with the return of the chrysanthemum season Stoke Newington was "in everybody's mouth." Alas! history will not keep to established grooves; this model society has become "National," and the flower, through the growth of its renown, has actually lost one of its most picturesque associations.

Pictorial art in China and Japan owes much of its life to the chrysanthemum and the pæony. These flowers are seen on their splendid pottery, and in the fantastic pictures of the native artists, in all possible degrees of naturalism and conventionalism, both flowers happily lending themselves to the invention that likes to make a toy of the truth. The chrysanthemum is in both countries a greater favourite than the pæony; and it must be confessed that, while we have derived from China and Japan the parents of our finest varieties and the types of the most distinctive forms, we are not the less indebted to them for the lessons that are the basis of our chrysanthemum cultivation. From the Chinese our gardeners have learned the art of producing specimen flowers of the most finished "incurved" form, such as the figure of *Jardin des Plantes* accompanying these remarks may suggest to the reader. For a full-sized specimen the size of the page does not suffice, for we are familiar with flowers that could not be put into a man's hat, so large are they.

The Chinese chrysanthemum was first accurately described by Breynius, in his "Prodrômus," 1689, under the name of *Matricaria Japonica maxima*, and he states that six varieties were at that time in cultivation in Holland. It received its present botanical name of *Chrysanthemum Indicum* from Linnæus, whose "Species Plantarum" first appeared in the year 1753. The first specimen known to have been

grown in England was one that bore small yellow flowers, in the Botanic Garden, Chelsea, in the year 1764. It is interesting to be enabled to add that a dried specimen of this very plant was (with others) presented by the famous gardener at Chelsea, Philip Miller, to the Royal Society, and is now in the herbarium of the British Museum, in the series known as "Miller's Specimens." But this plant perished soon after the transfer of Miller's specimens; and it was not until the year 1789 that the true Chinese chrysanthemum obtained a place in Europe. In that year M. Blanchard, a merchant of Marseilles, imported three plants, the white, purple, and violet; but the purple only survived that expedition to become a garden flower. In the year following the Royal Gardens, Kew, obtained a specimen of this purple chrysanthemum; and thus the large-flowering chrysanthemum, the queen of autumnal flowers, obtained a home in this country. One hundred years have passed, and every year has seen something of importance added to its history, for from the first flowering of well-grown plants in Colville's nursery, at Chelsea, in the year 1795, it has been a subject of public interest and of increasing importance in the social circle. There are now over two thousand varieties named and registered, and hundreds of societies that especially recognise and encourage the cultivation. The number of these societies being ever increasing is an intimation that the chrysanthemum has not even yet reached the zenith of its fame.

In the cultivation of this plant, it should be kept in mind that it is not perfectly hardy in this country, and, therefore, as a garden flower that every year challenges the winter by flowering late, it is often much marred by unkind weather. In the autumn of a recent year, the

chrysanthemums in London gardens being spared frost, fog, and heavy rain, made a wondrous display, and compelled all observers to note the exceeding rarity of such a November festival. Then we saw the colours of the flowers in their highest perfection, far exceeding in depth, purity, and brilliancy the best specimens as seen in exhibitions, for these last are necessarily flowered under glass. The severest winters do not indeed kill the plants, but one or two days of "dirty weather" in November may damage the bloom so far as to deprive it of all beauty.







LOVE-LIES-BLEEDING.

## LOVE-LIES-BLEEDING.

*Amaranthus caudatus.*



THE amaranth is a fact and a fancy. It is the flower of immortality, the flower of love, the flower of fame, and the flower that accompanies Hope until she is ruthlessly swallowed by Despair. "Love-lies-bleeding" is a name needing no explanation to one who has seen the flower, for often the pendent inflorescence, of a brilliant crimson colour, may be likened to streams of blood; but as a figurative expression it might with equal propriety be called "Hate-lies-bleeding." Amaranthus is the unfading flower, *amar* giving the adjective to the noun. By a

confusion common in the history of words, *amar* has been changed to *amor*, and thus the unfading flower becomes the flower of love: the outward characters explain the rest.

The mythical or fanciful part of the history of this flower admits us to the region of poesy, and we find the amaranth to be a flower of the gods. Better for us at present, perhaps, is the adoption of the flower by Milton for crowning the celestial beings that bow before the throne of the Most High, in "Paradise Lost"—

"To the ground,  
With solemn adoration, down they cast  
Their crowns, inwove with amarant and gold :—  
Immortal amarant, a flower which once  
In Paradise, fast by the tree of life,  
Began to bloom ; but soon for man's offence  
To heaven removed, where first it grew, there grows  
And flowers aloft, shading the fount of life,  
But where the river of bliss through midst of heaven  
Rolls o'er Elysian flowers her amber stream ;  
With these that never fade, the spirits elect  
Bind their resplendent locks inwreathed with beams.  
Now in loose garlands thick thrown off, the bright  
Pavement, that like a sea of jasper shone,  
Impurpled with celestial roses, smiled."

It is fortunate for Milton that jasper has a great range of colours. It is best known in the world of art by the Wedgwood ware, so called ; but it will scarcely be considered a mistake on our part to say that jasper has never been seen of the colour of any amaranth known in gardens.

Shelley, in "Rosalind and Helen," thus introduces our flower :—

"Whose sad inhabitants each year would come,  
With willing steps climbing that rugged height,  
And hang long locks of hair, and garlands bound  
With amaranth flowers, which, in the clime's despite,  
Filled the frore air with unaccustom'd light.  
Such flowers as in the wintry memory bloom  
Of one friend left, adorned that frozen tomb."

—



It is a sad drop from the heights to which the poets carry us to the uncomfortable suggestions of the old French name for the flower, "Discipline des religieuses"—the nun's whipping-rope. Another French name takes the "amor" into consideration, for it is "Fleur de jalousie." The geographical enterprise of the Spanish and Portuguese is reflected in the name—"Papagayo"—it bears in the Peninsula; it is there the parrot flower, though quite unlike a parrot, except in its brilliant colour.

All the amaranths are annuals, and all that are known are worth growing. Three of the number are of considerable importance to amateurs who require flowers in plenty at the least possible expense, and needing but very little exercise of horticultural skill. They comprise the one here figured, *Amaranthus caudatus*, which will grow in any soil, but attains to a splendid character when located in a rich, deep, moist loam. It is sufficient to sow the seed on the border where it is to remain; but for a well-managed garden, the proper practice is to sow in pans or pots, and raise the plants in a frame, and plant them out when large enough. There is a yellow-flowered variety, and there is one with whitish flowers; but the common crimson is the most effective.

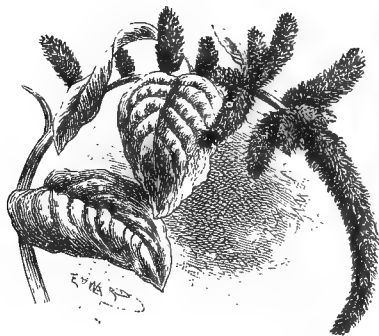
Prince's feather is a replica of the foregoing, but with upright instead of pendent inflorescence. Its book name is *Amaranthus hypochondriacus*. It is more hardy, grows to greater size, and lasts longer in flower than love-lies-bleeding; but though a fine plant, it must be placed second in order of merit as regards distinctive beauty.

A showy amaranthus is *A. speciosus*, a native of Nepaul, growing three to four feet high, with reddish-purple leaves, and crimson flowers in dense whorls. If sown in

the open border in April, it makes a fine plant, but it is better to sow in March, in a warm house or frame, to insure a longer season of growth and a fuller development.

The globe amaranth, the cockscomb, and the pyramidal celosia are true amaranths, the last-named being one of the most lovely plants of its class in cultivation. It is only an annual, and requires the warmth of the stove; but its feathery plumes of many colours are unequalled for distinctness and lustre. Its book name is *Celosia pyramidalis*.

How many of the amaranths are edible we cannot with precision say. We have grown *A. polygonoides* in a frame for use as spinach, and found it excellent. Another species, *A. tristis*, is largely used as food in India; and the young stems of *A. oleraceus* are in the same country eaten as a substitute for asparagus.



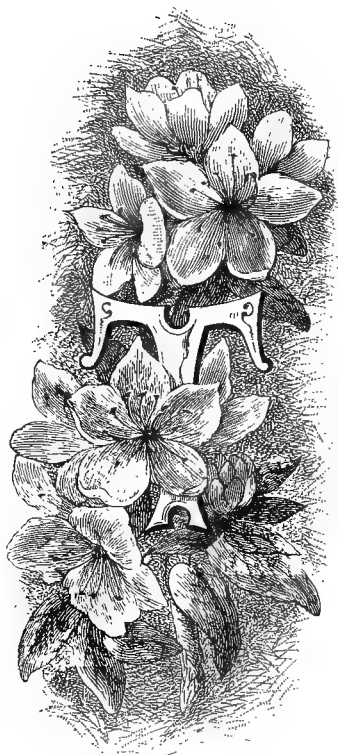




RHODODENDRON.

## THE RHODODENDRON.

*Rhododendron ponticum.*



THE tendency to depreciate the commonplace is very strikingly illustrated in the preference given to rhododendrons of almost any and every kind over this very old and most familiar garden flower. So anxious are raisers and planters to obtain something different to the cheap, hardy, accommodating, and uniformly beautiful Pontic species, that they are always prepared to produce and plant and vindicate varieties that are tender, shy, and of ungainly growth, for the sake of colours to which they are unaccustomed.

But when seen in masses, covered with their bountiful bloom in many shades of rosy-purple, these Pontic rhododendrons surpass all others in point of beauty; and they have a certain freshness that is indescribable, but must be felt when the surroundings are in harmony with the rich but soft colouring. One of the best places near London in which to see these plants

in perfection is Cobham Park, near Gravesend ; but the London parks can show fine groups, and the nurseries at Bagshot and Woking are renowned throughout the world, not only for the mere growing of rhododendrons, but for the multiplicity of magnificent hybrids that have been obtained by systematic labour long continued. There we shall find them in the opening of the summer gaily dressed with banners of scarlet, crimson, rose, purple, white ; with shades of yellow, amber, brown, blue, and even black. And many of the splendid hybrids are as hardy as the more common plant before us ; and their beautiful colours and floral characters give a special interest to the magnificent exhibitions that are annually held in the Botanic Gardens, Regent's Park, and elsewhere in places of public resort.

The common purple rhododendron appears to have been introduced to cultivation in this country in the year 1763. It is described in Martyn's edition of "Miller" (1807) as "native of the Levant and Gibraltar ; also of Georgia, in the southern sub-Alpine tracts of Caucasus, and where it affects wet places in beech and alder coppices, on rocky mountains, but not on high Alps." In Aiton's "*Hortus Kewensis*" (1811) there are three references to technical descriptions of the plant, and one of them carries us to the only authentic figure we have succeeded in finding ; for this being a very "common" plant, the picture-makers are quite unable to look up to it. The figure is in the *Botanical Magazine*, t. 650 (1803), and, though truthful and sufficient, is a far inferior figure to the one now before the reader. This is to be explained by the fact that a good garden variety has been selected for the present purpose ; and our specimen is characterised by broad petals and a great depth of colour.

It will occur to the reader to ask whether this plant is to be taken note of in connection with the poisonous honey that we have discoursed upon in describing the Pontic azalea? The deleterious honey known to the ancients, and described by Dioscorides and Pliny, and which plays a dramatic part in the grand story of Xenophon, was certainly not a mythic substance. The inhabitants of Georgia were but too familiar with it. In the opinion of the writer, who for many years has been intimately familiar with the greatest plantations of rhododendrons of this country, and of Europe generally, the common purple rhododendron produces honey that is as wholesome as that from the clover, the heather, or any other good bee plant. Indeed, were it otherwise, we should be too frequently and forcibly informed to remain in doubt upon the subject. But in the *Botanical Magazine*, under t. 650, occurs a very interesting note, as follows:—"A middling-sized rhododendron, which had been somewhat forced, standing in a very light, airy bow-window facing the north, produced a large drop of very pellucid nectar at the base of the broadest segment of each corolla; as the flower decayed, this drop mostly crystallised. A number of these crystals were collected, five of which weighed a grain. They were very transparent, resembling in appearance and taste the purest white sugar-candy. The same has been observed in some degree, but not to nearly the same extent, on some other trees similarly situated." Many who observe minutely have seen these saccharine tears in flowers, but few have proceeded beyond the casual observation.

As for Pontus, it is a mysterious geographical entity; and to work out its boundaries will cost some labour, even

to the geographer familiar with the ancient books. But there is a way out of every difficulty. Whoever desires a quick guide to the mysterious Pontus may refer in any modern work to Anatolia.

The Pontic rhododendron will grow in any peaty, sandy, or light loamy soil. It does not thrive in clay or sticky loam, and it will sooner or later perish in a soil containing any notable proportion of calcareous salts. Therefore on limestone and chalk a soil must be prepared for it. In carving a garden out of a wilderness, the old grass turf, sliced off about an inch thick, and chopped over with sharp sand, will make a capital compost for rhododendrons. But where any difficulty arises, the way out of it is to cart in good turfy peat (not bog) soil.





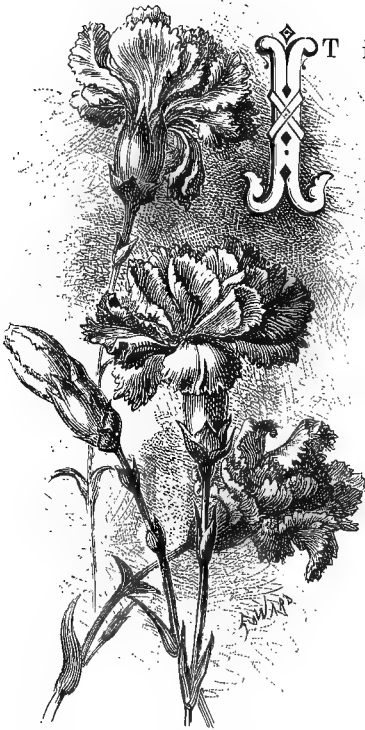




BORDER PINKS.

## BORDER PINKS.

*Dianthus plumarius.*



**T** is an easy matter to write *Dianthus plumarius*, and then regard the name as a sign that we have traced the pink to its source. But here, as elsewhere, there is room for difference of opinion, because between the wild flower and the flower of the garden there is a great gulf fixed. It is convenient to regard *D. caryophyllus* as the origin of the carnation, and the species named above as the origin of the pink, but other species come near to both flowers, and in their garden forms the two sweet old favourites are very distinct. All the allied forms may be termed mural

plants, for the Cheddar pink loves limestone rocks, the wild clove is the "castle pink" of poetry, the pheasant's-

eye pink (*D. plumarius*) has a special love for the walls of Ludlow Castle, and the Deptford pink (*D. armeria*) haunts dry chalky banks about Cobham, Higham, and Sandwich, and joins with all the rest in hinting to the lover of pinks that to grow such flowers well a dry calcareous soil is much to be desired.

We call pinks "old-fashioned" flowers, and perhaps we should find them more often mentioned in old than in modern books. Cowper, in his tender lines on his mother's picture, includes the pink amongst the favourites of his childhood :—

" Could time, his flight reversed, restore the hours,  
When, playing with thy vesture's tissued flowers,  
The violet, the pink, and jessamine,  
I pricked them into paper with a pin."

In the "Paradisus" of John Parkinson we have evidence of the importance of these flowers in old English gardens, and it may interest readers of the dry-as-dust school to look upon a pink or carnation in the first place as a true gilly-flower, and next as the true clove that served for the payment of a reserve, or, at all events, as the emblem of acknowledgment in the constitution of a tenure. The authority for this is Turner's paper on the horticulture of the Middle Ages, and it dates from a time when the clove of commerce and the peppercorn were equally unknown.

Border pinks differ from show pinks only in flowering more freely, and with less perfection of form and colour, many of them being destitute of the "lacing" that is so much valued as a characteristic of the flowers that are grown for exhibition. The show pinks are richly and regularly marked with broad bands of colour on each petal, but border pinks are irregularly marked, or are self-coloured :

that is, of one colour only. The true pinks, whether show or border flowers, are generally esteemed for their spicy fragrance. But there is a class also much valued that are often quite wanting in fragrance: these are known as "mule" pinks, being hybrids of *Dianthus plumarius* with other species, such as, perhaps, *D. cæsius*, *D. sinensis*, and *D. superbus*. The mule pinks are not only useful as border plants, but are often grown in pots for forcing, being easily managed to supply flowers throughout the winter, and more especially at the dawn of spring, when flowers are much in demand, and are often very scarce.

There is no flower in the garden on which the amateur may with greater advantage bestow attention than on the pink. The shortest and surest way of securing a fine lot is to sow a pinch of good seed in the month of April, and raise the young stock in a frame. Sow in pots filled with sandy loam, and keep these moderately moist, and closely shut up and shaded in the frame until the young plants appear, when the tactics must be changed in favour of air and light. All seeds germinate more regularly and vigorously if screened from the light, but the growth that young plants make in a subdued light is likely to be weak and unhealthy. Give them as much air as the weather will allow, with water enough, but no excess, for the pink is a dry plant, and sooner suffers from damp than cold. When they are large enough to handle, plant them out on a border of fine soil in a sunny position, at about three inches apart. In the event of having to prepare a border for them, make it up of sifted turfy loam and sharp sand in about equal proportions. When the pinks begin to crowd one another, take them up, and plant them where they are to remain for flowering.

When pinks are grown in any quantity, a good bed should be prepared for them, rich and deep, but in a sunny, well-drained situation. The month of September is the best time for a general planting of pinks, more especially when the plants are purchased and named varieties are preferred.

Named pinks are multiplied from layers and pipings, the last being most in favour. Pipings are taken from the slender shoots at the time the plants are in flower. They should be cut at a length of three or four joints below the growing tuft, or "grass," and this tuft, or grass, must be somewhat shortened. A bed should be prepared in a cool shady spot, such as the north side of a hedge, or in the partial shade of old gooseberry-trees. About four inches of fresh fine soil should be spread, and on this the pipings should be firmly planted three inches apart.





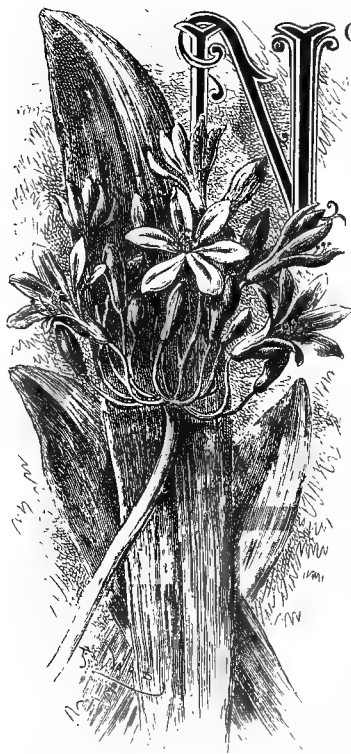


AFRICAN LILY.



## AFRICAN LILY.

*Agapanthus umbellatus.*



NOTHING that the great African continent has given us in the way of flowers can surpass in value the glorious old African lily, which brings the rare blue colour into the great family of lilies. From Africa we have the magnificent terrestrial orchids called disas, any number of heaths and pelargoniums, not a few of the finest palms, and the hard-leaved cycads. But for usefulness, the agapanthus stands alone; and if we are called upon to find a companion for it, the *Vallota purpurea* shall have the preference over all other African plants; and this, although called Scarborough Lily," is, strictly speaking, an amaryllis. The agapanthus, or African lily, has been classed as a crinum, as a hyacinth, as a polyanthus,

and a tulbaghia ; its modern name dates from the publication of Aiton's "*Hortus Kewensis*," wherein, on the authority of L'Heritier, it is entered by the name now universally recognised. It was cultivated in the Royal Gardens at Hampton Court in 1692, therefore it is no novelty ; and yet of its history there is not much to be said.

This fine plant is commonly and advantageously regarded as requiring protection in winter, and is, therefore, grown in pots and tubs. It is, however, quite hardy in the southern counties, and in London survives an ordinary winter in the open border, where, if spared for a few years the trial of a severe and prolonged frost, it increases to a large mass, and flowers freely in the month of September. The winter of 1885-6, the longest we have known, though certainly not the severest, affected out-door plants at Kew so slightly, that when, in the month of April, the spring renewed the growth of vegetation, they were found to be fresh and green, and scarcely touched by the winter frost. In the Botanical Gardens of Manchester some large clumps have stood out in borders for several years, with but little harm, from which they have soon recovered. Some very fine clumps that we had in the open border, on heavy land, in a northern suburb of London, were so much injured by the keen frost that occurred in the month of March, 1880, that it was not until the end of May that they presented above ground a new growth of green leaves from the roots ; and in that year they did not flower, having enough to do to accomplish their re-establishment.

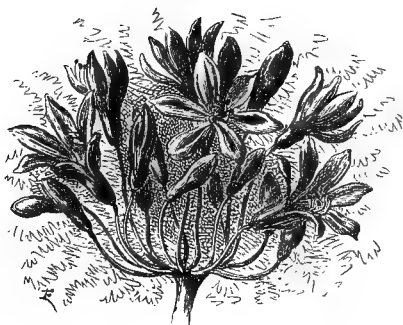
We are particular to set forth these facts, because, when a noble plant, such as the one before us, proves to be hardy enough to brave an average winter in the open ground, the gain to all lovers of a garden is immense.

But, as remarked above, the plant is with advantage treated as requiring protection in winter, and, generally speaking, the amateur cultivator will insure the best success by practising pot-culture.

The agapanthus requires a rich, strong, loamy soil, in which it produces a large mass of stout, fleshy roots, that are thirsty in high summer time. It is a mistake to prepare a light sandy compost, except when the plants have been cut up for increase; in which case, for the first potting they should have a sandy soil of a rather poor character, and be put into pots as small as possible. But when they have made new growth, and require more room, the soil should be a rich, strong loam, the pots should be large in proportion to the plants, and from June to August they should stand in pans of water. By this treatment they will make a grand growth, and flower finely. During winter a stable or shed will suffice to shelter them, but the best place is a plant-house, heated sufficiently to keep out frost. It is a good practice to shift the plants into pots one size larger than the last when growth commences in the spring, and to continue this practice until they become too large for the purposes required, when they may be divided by carefully cutting through at the crown, while being cautious not to seriously mutilate the roots. Each piece removed should have a bunch of roots of its own; and if these are unmanageable when they are potted, they may be shortened, but must not be severely cut back. For some time after the divided pieces have been potted in small pots very little water should be given. To be out of doors from the 1st of May to the 1st of October will suit the agapanthus well.

There are some half-dozen varieties of *Agapanthus*

*umbellatus*, comprising one with flowers of a pure white colour, one of very dwarf habit with narrow leaves, and one the leaves of which are beautifully variegated. For all ordinary purposes, the common blue robust variety is the best. We have had large plantations of this plant, mixed with tritomas, gladioli, and lilies. They gave but little trouble, and made an impressive display of their various and magnificent flowers—a kind of “hardy gardening” not often seen, though neither costly nor difficult.







GENTIANELLA

## GENTIANELLA.

*Gentiana acaulis.*



BLUE flowers are the least plentiful, and the philosophers tell us the reason why. All flowers, they say, were at first green; from this they diverged to yellow and white; their next advance was to shades of red. Their triumphant colour—or, say, their final stage in chromatic evolution—is blue. If we accept the hypothesis—for theory it is not—we must regard the gentians as incapable of further change in respect of colour; they have passed through all the prescribed phases, and having reached the goal, may rest and be thankful, while myriads of flowers in the

earlier stages are still slowly fighting their way to the “blue ribbon” of the turf amidst which they sparkle and glow.

Gentians rank amongst the noblest of Alpine flowers, and they give us tones of blue that never fail to excite surprise, no matter how familiar we may be with them. Their geographical range is certainly South European ; but their head-quarters are the mountains that run east and west from Transylvania to Cape Finisterre. India, too, has its true gentians and its exacums, these last being marvels of colour—the petals intensely blue, and the stamens intensely yellow.

Conjuring is easy when you know how to do it ; and so also is the growing of gentians. It is given to few to succeed, while many fail, and our business in these pages is to point out the way to success for any and every lover of these much-loved flowers. Go with us up the mountain, and you shall see them in the pastures, and in nooks amongst the rocks, where they are exposed to the fullest light, and are frequently bathed in mountain moisture. You will never see them in a dry soil ; you will never see them in such shaded hollows as the ferns creep into ; and you will not often see them where keen breezes prevail. They like sheltered nooks, open to all the light of heaven and to the kindlier airs of the mountain ; and their roots must have constant supplies of moisture, or the plants will surely fade away. These conditions may all be secured in gardens ; and as a matter of fact, all the gentians are well grown in gardens by the few—it is with no pleasure we say the very few—who know how to do it.

The gentianella (*Gentiana acaulis*) is one of the easiest to manage as a garden plant, but is useless on a very dry soil. A deep moist loam will suit it well, and a surfacing of stones seems always to its taste ; in fact, a stony soil, deep and moist, will suit this and many more of the gentian



family. We have seen this flower employed with excellent effect as an edging, its compact tufts of deep green leaves rendering it a quite respectable plant. Its usual place is the rockery, for which it is so well adapted that if only a score of rock plants are wanted, the gentianella should be one of them. The custom of planting little mites of plants we shall not object to, because the planter must have freedom of action when the purse is appealed to; but we are bound to say that a small tuft of this beauty is never sufficient for its vindication as the perfection of a rock plant. A few large patches or carpets are required, and it is easy to obtain them by sowing the seeds every year in pans in a frame, and nursing the young plants carefully, remembering also that they are perfectly hardy, and are more in need of protection against drought than against frost or wind or sun.

The spring gentian, or *Gentiana verna*, is the proper companion to the gentianella. It will generally thrive in the same soil, and both will sometimes display a vagrant quality in spreading from the comfortable bed prepared for them to the adjoining gravel-walk, in which, if allowed, they will run riot, as if to show how they love to be in contact with stones. The vernal gentian, however, needs a moist, sandy soil, and it is an advantage if smallish pieces of sandstone are mixed with it; but moisture is before all things important, the sure result of dryness at the roots during May and June being the death of the plants. In a soil they like they root deeply, and the stones on the surface check evaporation and help to sustain the plant by the retention of moisture.

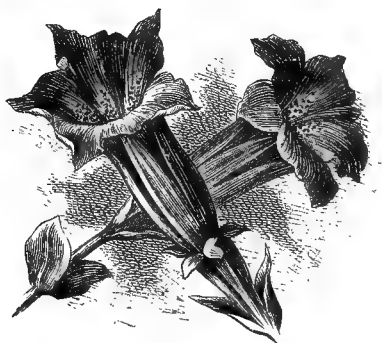
The Bavarian gentian (*G. Bavarica*) is like the vernal gentian, but has fewer leaves, and the flower-stems are

thickly clothed with a leafy setting for its brilliant blue flowers. This requires a boggy soil, and in making a bed for it, spongy peat should be selected.

The swallowwort gentian (*G. asclepiadea*) is a free-growing, herbaceous plant, bearing blue or white flowers on long leafy sprays. It will thrive in a moist loam or peat, and appears always to be happiest when slightly shaded.

The crested gentian (*G. septemfida*) is a very fine plant, of moderate growth; the flowers are set in clusters, the colours being blue and white within, and greenish-brown without, while the alternate petals are finely fringed. This gentian requires moist, sandy peat.

The easiest mode of increasing gentians is to divide the roots, but this should never be done until the plants have spread in large patches, for it is difficult to keep small pieces alive. The three that have first place in our list afford seed in plenty, and to raise a stock of plants is at once a simple and entertaining business.







LAPAGERIA.

## LAPAGERIA.

*Lapageria rosea.*



PLANTS of recent introduction, more especially those from the great Western continent that we call the New World, do not willingly lend themselves to literary treatment. In respect of the book treatment of natural history subjects, we run in vicious grooves; and if the garrulous "ancients" have nothing to say, we seem to be struck dumb, for the sources of knowledge appear to the mere bookmaker to be in what are called the "classics." Alas, for the case before us! Theophrastus and Ovid knew not the lapageria; and it has not been known to our gardens at the present date for so many as sixty years. The

flowers had been described by Ruiz and Pavon as "Formosissim;" but the lapageria was unseen at Kew until 1847,

when an American gentleman, Mr. R. Wheelwright, presented a plant obtained from Concepcion, Chili, and very shortly thereafter it was talked about, as it deserved to be, as one of the wonders of botanical discovery. Messrs. Veitch, about the same time, secured it through their successful collector, the late Mr. Thomas Lobb; and, as a matter of course, it was cultivated by them for commercial purposes.

At this point we wish to mention an incident in the history of the lapageria of interest much greater, even if less attractive, than any possible association of the unknown thing with human loves or inhuman follies in Greek or Roman poetry might be. The plant was figured in the *Botanical Magazine* in 1849 (t. 4, 447), and reference thereto will enable any one who knows the flower to say that the figure is admirably lifelike. But read the story that accompanies it, and you will learn that the artist, Mr. Walter Fitch, had no living flowers at command, for none had then been seen in this country. The story declares that "our flowers are taken from dried specimens, aided by coloured figures made in the native locality." Thus we leave the overworn "classic" groove; we are not to consult the ancients about a flower that for them did not exist, but we have forced upon our attention the fact that a botanical draughtsman may, by means of dried specimens and secondary helps, produce a portrait that shall have, for both pictorial and scientific purposes, the value of a drawing from the life. To this remark it should be added that very much of botanical draughtsmanship in recent years has been founded on dried specimens and descriptions, and, generally speaking, technical accuracy has been secured thereby.

The lapageria belongs to the Smilax family, and therefore, by a little adroit management, it may be dragged

into the classical connection ; but we shall resist the temptation, and say that in the country it adorns its roots are used for the same purposes as sarsaparilla, while the ripe pulpy fruit is eaten, and is much prized for its agreeable flavour. It was first described, as noted above, by Ruiz and Pavon, in "Flora Peruviana," and was by Dr. Lindley included in a new order called Philesiæ ; but Dr. Hooker, in his "Flora Antarctica," placed it in the Smilax alliance, and there it remains most properly. The genus is named in honour of Josephine Lapagerie, wife of Napoleon Bonaparte, who, in her gardens of Malmaison, rendered some special services to botany.

*Lapageria rosea*, and its white variety *alba*, have given much trouble to cultivators ; but being now well understood, they occasion trouble no longer. They are so nearly hardy, that the cool plant-house is the best place for them, generally speaking, while it is probable that in some favoured spots in Devon and Cornwall they may prove to be sufficiently hardy to thrive on open walls and trellises through a series of average seasons, and perhaps survive the occasional severe winters that put all such plants of doubtful hardiness to the extreme and final test. The soil for the lapageria should be good turfy peat, with a considerable mixture of sharp siliceous grit. It should be free from calcareous matter, and, generally speaking, what is known as silver-sand and brown orchid peat are the safest materials for a compost. We have found that the fine grit sifted out of the sweepings of gravel roads and paths is the best of grit for such a purpose, provided the material is siliceous, and not calcareous—a point on which any one may be easily satisfied. Another requisite is an abundance of root moisture. It is not, indeed, necessary to provide the

roots with a running rill of water ; but a large bulk of soil must be provided, and the supply of water must be copious and constant all through the growing season. Liberal root room, and correspondingly liberal head room, are conditions of importance in the cultivation of this superb climber. When these are provided, there is little else to do beyond training the plant to the wire or rafter near the glass, and shortening the growth only when it becomes too luxuriant for the situation. When in any way cramped or starved, the lapageria is more plague than profit. Better always a thriving tuft of native chickweed than a poor example of any grand exotic !









SWEET WILLIAM.

## THE SWEET WILLIAM.

*Dianthus barbatus.*



ARROW-LEAVED varieties of this useful flower are called in the old books "Sweet Johns," and the broad-leaved "Sweet Williams." We speak of the carnations and pinks as the true gilly-flowers, and have ample authority for so doing. But at the present time the gilly-flower of the midland counties is the wallflower, and in old times the wallflower was called the sweet william. These confusions of popular names serve as a perpetual justification for the use of the Latin names of plants whenever it is intended to specify particular things, and leave no margin for the exercise of fancy or the changeable vagaries of custom. The plant before us

is *Dianthus barbatus*, the bearded pink, and the name applies to this and no other. The French know it as

the nosegay of pinks, we know it as the sweet william, and it has been known as Jove's flower, London pride, tolmeiners, and London tufts. For the association with Jove there is good excuse, the name *Dianthus* giving the key thereto. Cowley, in the fourth book of his poem on plants, makes a special passage on the subject—

“Sweet william small has form and aspect bright,  
Like that sweet flower that yields great Jove delight;  
Had he majestic bulk, he'd now be styled  
Jove's flower: and if my skill is not beguil'd,  
He was Jove's flower when Jove was but a child.  
Take him with many flowers in one conferr'd,  
He's worthy Jove, e'en now he has a beard.”

There is no flower of the garden better adapted than the sweet william to the means and requirements of the town amateur, for it is most easily grown and always gives delight, even when far removed from the perfection it attains in the hands of skilful florists. And it will be well for the lovers of cheap hardy flowers to know the florist's model of a sweet william, for what are called “auricula-eyed” flowers are sumptuously beautiful and as easy to grow and keep as the commonest, for it is the good breeding in them, accomplished by regular crossing and severe selecting, that has brought the flowers to the splendid standard with which we are now familiar.

These cheerful favourites are grown from seeds and cuttings, the last-named method being resorted to only in the case of the double-flowered kinds or those of the single that are required for some special purpose for which they must be all alike. To raise a stock from seed requires no appliances whatever, as the seed may be sown in the border, and the plants may be transplanted to where they are wanted when large enough. But the best way is to sow the

seed on a bed of fine soil in a frame in a sunny position in the month of April or May. As soon as the young plants begin to crowd one another transplant them to a sunny border four inches apart, and in September remove them to the places they are to occupy for flowering the next season. It is a good plan in decorating a mixed border to put them in clumps, but single plants make fine heads of flowers, and should need no support whatever and no special care in the management. Sweet williams certainly like a rich soil, and in hot, dry weather water is good for them, as for many other beauties; but we have here no delicate subject that needs much nursing, and the principal point is to give every plant a good place, with food below and light above, for in shady and sour places they are of no use whatever.

To raise a stock from cuttings is an easy matter, but requires care, because the cuttings must be taken in the height of summer, when any neglect may prove fatal to them. Any plant it is intended to propagate in this way will supply a number of slender shoots at the base, those that rise in a robust manner for flowering being quite unsuitable. The best cuttings are about two inches in length, or three at the utmost, and it is well to plant them in a frame or under hand-glasses. However, a shady spot near a hedge will answer very well with the help of a sprinkling of water twice a day. It was part of our business when forming a fine strain of sweet williams some years ago to raise a very considerable number from cuttings to insure the finest possible quality of plants for seeding. And it proved an exceedingly easy task to root the cuttings in the border of a cucumber house amongst the cucumbers, the cuttings having the advantage of the warmth and moisture

necessary for the cucumbers together with the shade afforded by their large leaves:

When thriving in a good border sweet williams last many years, although classed as biennials. But often the ripening of seed proves fatal to them ; therefore, any that are worth keeping should be assisted by the removal of the faded flowers before the seed-pods swell. There is no special advantage, however, in keeping them, because young plants produce the finest flowers, and it is advisable to raise a fresh stock every year.

These flowers are not often grown in pots, and for general purposes it would be waste of time to pot them. But an exception occurs in the case of the splendid double crimson variety, the flowers of which are large, rich, and appear in profusion, while the plants are truly perennial, and make fine pot-plants for windows and boxes.







CACTUS.





## CACTUS.

*Phyllocactus crenatus.*

PHYLLOCACTUS is a "leafy" cactus, as distinguished from a melocactus, which resembles a melon, or an echinocactus, which may be likened to a hedgehog. The phyllocactus section of "Indian figs" includes many that were formerly classed with *cereus*, the torch thistle, and with *epiphyllum*, the "leaf-flowering" section. For all ordinary purposes these leaf-flowering cactuses are the most useful of any, being of rapid growth, flowering freely and gaily, and requiring no particular care either

to multiply them or to keep them through the winter.

The cactuses are now freely scattered throughout the world, and are familiar weeds in many countries that afford them a dry bed in winter and a glowing sun in summer, with sufficient rain at times to enable them to make their annual growth for extension and renewal.

Their frequent appearance on the shores of the Mediterranean has led many an artist astray, and we call to mind at this moment a fine picture, "Ruth and Naomi," in the Academy of 1885, wherein a group of flowering cactuses adorns a corner of the vineyard of Boaz. But the persons represented in the picture never saw the cactus, for it is, in all its forms, a strictly American plant, and was unknown in the old world until some time after the discovery of the new by Columbus in the year 1498, when, in his third expedition, he first landed on *terra firma* in the immediate vicinity of Trinidad. That Spain and Portugal should first become possessed of plants from tropical America was not only a proper consequence of the nationality of the early adventurers in the West, but a consequence also of the fitness of their conditions, for the rugged mountain sides of the sunny peninsula present a proper home for a large proportion of these curious plants. Their own seat of power is Mexico : there they run riot on hot sandy plains, or barricade the mountain pass against the traveller with their wreathing, snake-like growth, that must be approached with caution because of its formidable spines ; or by covering the ground with spherical masses more terrible than the caltrops that the ancient warriors threw upon the field to cripple the enemy's horses.

A considerable proportion of the members of the great cactus family are wholesome and useful ; but there are exceptions, for a few that exude a milky fluid have the acidity of euphorbias. The globular kinds are of great service to the wild horses, which break them with their hoofs to obtain the cool, juicy flesh free from contact with the dreadful spines ; and a considerable number produce edible fruits, the plant before us being an example. The

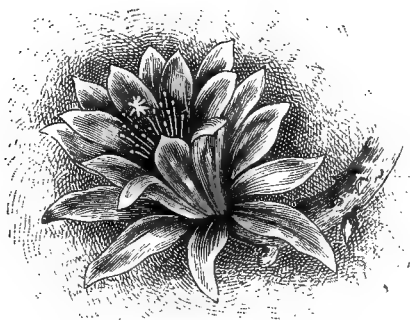
prickly pear, or Indian fig of commerce, is the product of *Opuntia vulgaris*, a very handsome greenhouse plant that grows in a succession of green oval disks dotted with spines, and produces in the early days of summer a glorious show of large, satiny, yellow flowers. The much-valued cochineal is the produce of an insect, the *Coccus cacti*, that lives on the cochineal cactus, *Opuntia cochinillifera*, a Mexican plant now largely established in the Canaries and in Java, but which has been put in the shade somewhat by the competition of aniline dyes, which have at least the merit of cheapness.

In the cultivation of cactuses, the requirements are few and simple, but must not be trifled with. Cactuses demand a somewhat calcareous sandy soil, with the most perfect drainage, for damp is their greatest enemy. It is too much the rule with cultivators to employ a very poor soil; but this is a mistake. A really generous soil is requisite to ensure free growth and fine flowers; but the drainage must always be the first consideration, for that being faulty, all other conditions, however suitable, are of no value whatever. At all times cactuses should be in the fullest light possible, and throughout the winter they should have no water, or no more than will just suffice to prevent shrivelling.

The summer treatment should include liberal supplies of water, and in the case of fine specimens that show promise of producing a great crop of flowers, weak liquid manure may be given until the flowering is over. It is a common error to keep these plants on short commons all the summer long, the result being a poor growth and very few flowers. They want warmth, light, air, and substantial food, and, as a rule, should be under glass the whole

year round. Some half-dozen species, of which *Opuntia Rafinesquiana* is an example, may be planted on the open rockery to run the race with other hardy plants; but the situation must be dry and warm, and lodgment of water in winter must be carefully guarded against.

The following are the best of the cactus family for an amateur's garden :—*Mammillaria applanata*, *M. gracilis*, *M. caput-medusa*, *M. decipiens*, *Echinocactus Simpsoni*, *Cereus grandiflora*, *C. flagilliformis*, *Echinocactus pectinatus*, *Phyllocactus Ackermanni*, *P. anguliger*, *Opuntia monacantha*, *O. curassavica*. With these by all means place a *Stapelia*, which loves a warm window and judicious neglect.









## HOLLYHOCK.

*Althæa rosea.*

THE eclipse of a grand garden flower must be reckoned as a domestic calamity, and this we have had to endure in the cultivation of the hollyhock. But an eclipse is only a temporary obscuration ; if suns and moons recover their wonted brightness, we may reasonably hope to see the hollyhock once more in its proper splendour, the noblest occupant of the country garden. Remembering the late Cecil Lawson's magnificent picture, "The Minister's Garden," we feel that the restoration of the hollyhock must be attempted, in the interests of art no less

than to maintain the high delights of the summer garden, and the pleasant memories it treasures for reflective observers.

The hollyhock was introduced from China in sufficient time for the enjoyment of our grand old gardeners, for

Parkinson figures the double hollyhock under the name of *Malva rosea multipler*, a name it might still bear with propriety, for it is a true mallow, and may be grown for fibre or fodder with possible advantage. As a garden flower it attained its highest fame in the first half of the present century, Lord Hawke, as an amateur, and Mr. Chater, of Saffron Walden, as a trade cultivator, being its best representatives. As an exhibition flower it ranked equal with the dahlia, and good collections comprised flowers of all colours, the size, the form, and the fashion thereof being truly sumptuous. But the eclipse came. It is but a paltry shadow that for a season blots the sun from the heavens. It was a paltry fungus, finding a home first on the common mallow of the fields, and thence spreading to the garden, that caused the eclipse of the hollyhock. Beyond all doubt the railways were the proximate cause of the mischief, for on railway banks the mallows run riot, and form the breeding grounds for the pest that for a time excluded the hollyhock from our autumnal exhibitions. In view of the facts, we can with emphasis repeat the advice of Thomas Tusser, who, occasionally, in his "Five Hundred Points of Good Husbandry," says "destroy mallow." The grower of the hollyhock should allow no wild mallows to come near his garden.

It is possible the cultivators contributed in some degree to the eclipse. The new varieties were in great demand, at prices decidedly remunerative, and it was the custom to propagate them in a high temperature, and often, with a view to increase the plants rapidly, the more expensive named kinds were grafted on roots of unnamed seedlings; and in order to promote a perfect junction of the graft with the stock, it was necessary to keep them for a time in a



steaming heat, which caused a quick growth and a corresponding debility of constitution. The practice has been abandoned, because the demand for named hollyhocks has declined, and now the plants are generally raised from seed, and as such are biennials, flowering in the second year, but becoming perennials, if needful, at the discretion of the cultivator.

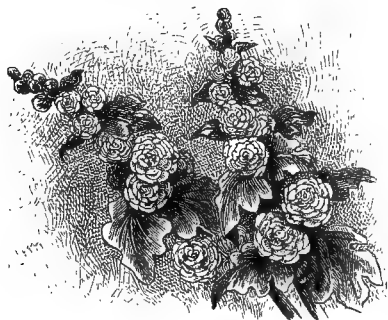
It is a fortunate circumstance that seedling hollyhocks do not greatly vary from the form and colour of the parent flowers. It follows that, when the seed is obtained from plants carefully selected for their fine qualities, a good bloom may be expected by adopting the simplest and the cheapest method of cultivation. The seeds may be sown at any time from March to August; but early sowing is advisable, as the plants can be put out in time to make a free growth the first season, to prepare them for a strong bloom in the season following.

As a considerable number of the finest named sorts, that were things of renown fifty years ago, are still in cultivation, the propagation by divisions and cuttings is still a matter of some importance. The time for this business is in the decline of the summer, or early in the autumn. It is an easy matter to detach from the base a short shoot or portion of the stool, and these being potted, and kept through the winter in a frame, will grow freely in the spring, and should be planted out as soon as the weather permits in April or May—the earlier the better, provided there is no particular danger of injury from frost. In places much exposed the planting must be later than in warm, sheltered situations.

The requisites for the production of a fine bloom of hollyhocks are a deep, rich, moist soil; perfect drainage, to

prevent injury by winter damp ; and full exposure to air and light. In places much overshadowed by trees, or where much hemmed in by walls and fences, hollyhocks do not prosper. They love sunshine and fresh air ; they love good living ; and in a hot, dry season may with great advantage be liberally supplied with water.

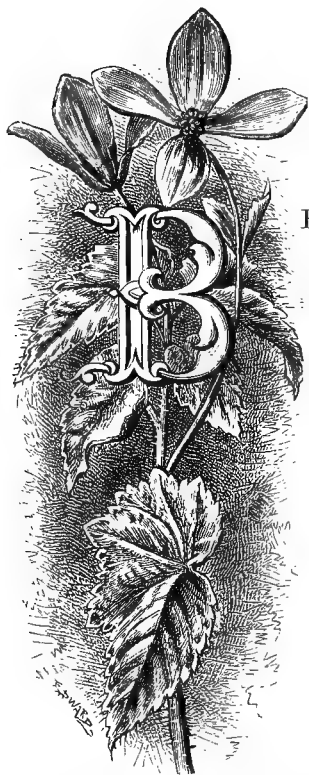
On the question of single versus double hollyhocks there is not much to be said, because what is preferred to-day may be rejected to-morrow. Having through a course of years grown collections of the finest named hollyhocks, our own taste inclines to the double flowers, the beauty of which might tempt one to speak of them as sublime. But few, very few, of the lovers of flowers in the present day have any proper idea of what a hollyhock of the florist's type is like ; in the days when they were freely and finely exhibited they filled with surprise the novitiates, and we hope to see them do so again, for, as we have said above, between eclipse and annihilation there is a difference. Disease has not destroyed the potato, and this, our grandest of border-flowers, gives many welcome signs of its intention to live through the trial.







BEGONIA.



## THE BEGONIA.

*Begonia intermedia.*

EGONIAS may be divided into two great classes: those that are grown for their leaves, and those that are grown for their flowers. The last-named section may be divided into those that are deciduous, and flower in summer; and those that are evergreen, and flower at all seasons. The summer-flowering kinds may be properly spoken of as familiar flowers, but they are somewhat new to our gardens, and have probably not yet attained to the fulness of their fame.

The introduction of *Begonia Boliviensis*, *B. rosæflora*, *B. Pearcei*, and some few others, was

in the nature of a floral surprise to the British public. Their very distinct and fine characters and their comparative hardiness were recommendations of the highest importance to cultivators. There was a cry for more, and more were found; and the florists, in the frenzy of a new fascination, went to work and created new begonias by

the score, and were not content with single flowers of all colours, but resolved to have them double, and were soon gratified by complete success. Ninety-six varieties were entered in Messrs. Veitch and Son's catalogue some twenty years ago, and another fifty might be found in other catalogues of London houses, and another hundred probably in those of Continental firms; so that, in round numbers, there must be over two hundred named varieties of flowering begonias now in cultivation.

All the begonias require a light, mellow, rich soil. A very suitable mixture for the flowering section, when grown in pots, may be prepared by mixing together equal quantities of turfy yellow loam, old rotten hotbed manure, and well-rotted and sifted leaf-mould. If it is not somewhat granular and kindly in texture, silver-sand must be added; but often the loam and leaf-mould contain as much grit as is needful. We will suppose that you begin the cultivation in the month of May. The plants will then be small, and without flowers. At the end of the month, and thenceforward to the middle of June, during warm, dull weather if possible, they may be planted out. An open, sunny, sheltered position is desirable. Any amount of sunshine they can endure, but wind and rain are unfavourable conditions. In preparing the bed there need be no elaborate arrangements. A good garden soil, well broken up and enriched with a liberal addition of mellow manure, will answer perfectly; and as regards after-management, there is almost nothing to do beyond keeping the bed clear of weeds, and giving the plants an occasional good soaking of water during very dry weather. Such aids as sticks and ties they ought not to need; but if you happen to plant tall-growing sorts, they must be supported in good time,

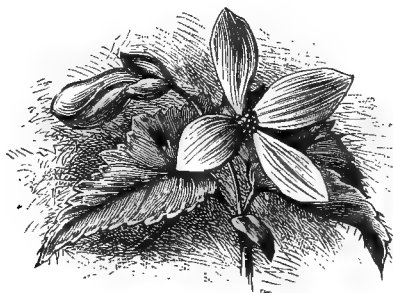
or sudden gusts of wind may snap their succulent stems. When the beauty of the bloom is past, the roots may be dug up, and stored away in sand on a shelf in the greenhouse, or any other place where they will be safe against frost, and they should be a little damp, or at least not utterly dry. In February or March the tubers may be planted either in pots or boxes, and placed in a temperature of about  $50^{\circ}$ , to begin a new growth. The pots or boxes should be nearly filled with potsherds, for if the tubers are put in any depth of soil beyond about three inches they will be in danger. A compost such as is recommended above will suit them, but a better compost, both for starting tubers and cuttings and seeds, will be one consisting of equal parts turfy loam, leaf-mould, and sharp sand, with no manure at all. If a large stock is needed, the first shoots may be snapped off when an inch or more in length, and struck as cuttings in a temperature of  $60^{\circ}$  in a somewhat close frame. When the cuttings are rooted they must have more and more light and air, and must soon be potted off singly in thumb-pots, after which the management will be the same as with any other bedding plants.

To raise these begonias from seed, boxes or pots should be provided with plenty of potsherds, and only two or three inches of sandy soil, containing much leaf-mould or peat. The seed is as fine as snuff, and must be sprinkled with great care, to spread it evenly over as large a space as possible. The month of March is the best time to sow the seed, but a fair growth may be obtained in a good season by sowing in April or May. When the seedling plants are large enough they must be pricked out, and when they have made a new growth they must be potted into thumbs.

The raising of new varieties may be accomplished by

the simple process of growing a few of the very best sorts, keeping them in an airy greenhouse, and saving all the seed they produce. But the prudent way is to fertilise them artificially, in which case all male flowers should be removed in the bud from the plants selected for seed-bearing, but the female flowers need not be removed.

The beginner in begonia culture will be inclined to ask, "How shall I distinguish the males from the females?" There is nothing easier. You know how different are the flowers of a pumpkin or a cucumber—one produces golden pollen, but has no fruit at its base; the other produces no pollen, but there is the fruit complete, though small, attached to the base of the flower, and distinguishable in the very earliest stage while the flower-bud is yet but a mite of a thing. It is just the same with the begonia. Usually the flowers appear in threes, two gentlemen with a lady between them. But this is no matter. The female flower has a triangular fruit or seed-pod at the base, and the male flower has nothing.









FORGET-ME-NOT

## FORGET-ME-NOT.

*Myosotis palustris.*



FROM a scorpion grass to a forget-me-not is in words a strange transition, but the differing names represent one and the same thing. A myosotis is a mouse's ear, which is but a poor similitude for such a pretty plant as the one before us. As for the name suggestive of its use against a venomous creature, it may interest the reader to learn that so-called scorpion plants were abundant in old times, and their appearance in such books as Turner's Herbal tells a tale of some importance. It illustrates the fact that our early writers followed the lead of continental botanists in a slavish manner, and as

in the south of Europe plants that twist in the way of a scorpion were supposed to be specifics against the bite of

the creature, so the English writers provided plants for the same purpose, in apparent ignorance of the fact that in England there were no scorpions. The story of the knight who was drowned in obtaining a tuft of forget-me-not for his lady love is a modern affair, and, therefore, not true. Were it but very old, it would be better entitled to credence, for age improves a fantastic tale more surely than it improves wine, and we can easily believe anything that belongs to the dark ages. But the story has its uses for the amateur gardener, because it takes him to the brook-side, where the true forget-me-not (*Myosotis palustris*) will be found with its feet in the water, and probably having for a companion another blue flower, the brooklime (*Veronica beccabunga*).

Thus we obtain through romance a key to the cultivation of forget-me-nots. One species, *Myosotis rupicola*, which we shall note again as *M. alpestris*, loves rocks and stones, and will thrive in a comparatively dry position, but all the rest require a moist soil, and will generally look happy in borders near a stream or in damp situations that many rock plants would not thrive in. Our native species, referred to above, although when growing wild a constant searcher for water, may be well grown in an ordinary border if accommodated with a moist rather than a dry position. It is a good subject for surfacing the ground under shrubs and amongst ferns in a moist spot, for its leafage is neat and its flowers are beautiful: it is from these the jewellers take their model when working up turquoises in rings and other such work. The yellow centre is a distinctive mark of our common forget-me-not, and suits at once the taste of the artificer and the customer, for by this mark is the flower known to all the world. The yellow centre is not wanting

in other species, but in this it is conspicuous, and combined with a peculiar tone of light starchy blue ; it is

“ The blue and bright-eyed floweret of the brook,  
Hope’s gentle gem ! the sweet forget-me-not.”

The British species of myosotis are eight in number, and all are called “ scorpion grasses ” because of the twist of the flower-stem, which is supposed to resemble a scorpion’s tail. Amongst our native species, the best for the garden is *M. alpestris*, referred to above, a real mountaineer, found in plenty on some high limestone ranges in the north ; it produces flowers that come near to those of *M. palustris*. This alpine plant is well adapted for the rockery, but must have a deep bed of gritty soil, which may be improved for the purpose by an admixture of some proportion of calcareous matter. Its large head of bright blue flowers is occasionally sweet-scented.

Very near the last is the woodland species, *M. sylvatica*, which is rare as a wild plant, but one of the best known in gardens, for it is a favourite as a bedding plant, and extensively grown in such noted gardens as those of Cliveden and Belvoir Castle. It is not so partial to moisture as *palustris*, but requires a deep soil, and will thrive either in sun or shade. There are white, rose, and striped varieties.

Perhaps the most useful of all in the gardens is the early flowering *M. dissitiflora*, which produces large sky-blue flowers, which sometimes pass into rosy red or pure white. This requires a moist soil, and is of great service for spring bedding.

The most distinct, but not the most useful, because it is somewhat tender, is the Azorian forget-me-not (*M. Azorica*), which produces flowers of the deepest blue, with an almost

infinitesimal eye. A sandy soil in either sun or shade will suit this beauty, of which there is a splendid variety named *Impératrice Elizabeth*.

Forget-me-nots are found serviceable as pot-plants, and also to grow in beds, in frames, and pits, to furnish early flowers. In winter and spring their flowers are as much valued as violets, and are as easily secured; but the reader may be warned that what is called "forcing" must not be attempted, for a strong heat in the dark days would ruin forget-me-nots. Whether in pots or a bed, the soil should be loamy, with much grit, and, if possible, clean leaf-mould. Water forget-me-nots must have in plenty, and air and light they will need if stout, well-coloured flowers are desired. It is a good plan to take up from the borders in the autumn large clumps, and pot them without breaking them up. These wintered in a frame with plenty of air will give a fine crop of early flowers, and may then be thrown away.







PANSIES.



## THE PANSY.

*Viola tricolor.*



FLORISTS who make a speciality of pansies will not, owing to their colour, approve of the specimens set before us in the plate. It is by no accident that we disappoint the florist of the model flowers he would like to see portrayed, but of set purpose and serious intention. It would be poor policy in such a work as this to set forth floral models, for our business is to figure and describe familiar flowers. These pansies have been selected from a garden border as samples of the general average; such flowers as the great world loves, and, while loving them, entertains no disrespect for the more technically perfect flowers of the florist, but recognises the broad truth that in what may be termed nature's imperfections there are beauties that

the products of human skill do not reveal. The florist's double rose is a glorious thing, but the "canker of the hedge" has charms that the exhibition roses give no hint of; indeed, when a "show-rose" shows an "eye" it is condemned, and it is the eye or yellow centre of the gauzy-textured "sweet wild-rose" that, as compared with garden roses, gives it a peculiarly distinct and delightful character. A rose with an eye is an awful thing, and a pansy with rough petals and blotches put on the "wrong way" is not less awful; but, for all that, it is one of the familiar flowers which the world will not willingly let die.

Pansies may be described as hardy plants that will grow anywhere and in any kind of soil. The humblest cottager can grow pansies, and not a few cottagers are pansy fanciers. Still, it cannot be said with any approach to truth that the pansy can be grown anywhere under a great variety of conditions. As a matter of fact, it is a somewhat fastidious flower, but as easy to manage as any when the conditions are suitable. It requires a deep moist sandy soil. In a dry starving land it will scarcely live, but a real sandy loam suits it to a nicety. It is comparatively useless as a town flower, and is certainly one of the very worst of London flowers. Country air it likes, but that is not all. In the east of England it does not thrive as it does in the west, and in the south it is quite poor as compared with its free growth and exceeding beauty in the north. The reader possibly perceives the secret of success in the cultivation of the pansy. It likes pure air and humidity.

From a horticultural journal we learn that the annual rainfall in London averages twenty-four inches, in Bath twenty-nine inches, in Ayr, which is near Paisley, forty-

four inches. If other comparisons are made between what may be called pansy and non-pansy districts, it will be found that relative humidity goes far to explain the difference. Some people find delight in making soft showers by means of the water-engine in the flower garden. Some plants are benefited thereby and some are not. The roses and the pansies may all the summer long be gratified with a morning and evening shower, to their advantage; the geraniums, petunias, mesembryanthemums, and portulacas will do very well without it.

The routine cultivation of the pansy is quite simple, although in matters of detail there is much to be thought of in connection with the higher culture of the flower. In any and every case it is of the first importance to be for ever producing young plants. The easiest way to do it is to sow seed in pans filled with light rich soil, and keep the pans in a cold frame until the seed has started. Pansy seed may be sown at any time except in the depth of winter, and the very best time is immediately on its becoming fully ripe. The named varieties are grown from cuttings, and those may be easily struck in spring and summer in a cold frame, but there is one golden rule to be observed to insure success. The cuttings must be made from young shoots; the old shoots will strike, but they never make fine plants. To obtain a stock very easily for filling a bed, it is sufficient to divide the old plants into as many pieces as possible, taking care that each piece has a few roots. But this is a slovenly way; it is better to sow seeds or strike proper cuttings. However, the dividing process in careful hands answers fairly well, and if carried out during moist, kindly weather gives but little trouble, and every scrap will soon make a plant.

As remarked above, a sandy loam is the proper soil for the pansy. This may be enriched with leaf-mould and rotten hotbed manure for the production of fine flowers, but a soil rank with fresh manure is not fit for pansies; they require a deep moist roothold, but will never thrive in contact with powerful stimulants. The necessity for humidity is all-important; but mere damp is as injurious to pansies as to other flowers, and therefore good drainage is essential both for plants in beds and plants in pots. The show kinds and the best of the fancy pansies make beautiful pot-plants when carefully cultivated, and there is no flower more likely to gratify a painstaking amateur who has no ambition to become a competing florist than the fancy pansy grown in pots as a frame plant. The frame secures for the fancy pansy, under suitable management, the moist and comparatively pure air it so much loves.







VERBENA.

## THE VERBENA.

*Verbena hybrida.*



ALTHOUGH there is no such plant in the learned books as *Verbena hybrida*, the name may be allowable now as compassing the fact, and as suggesting interesting possibilities. A flower has been formed from the inter-crossing of *Verbena melindres*, *V. Tweediana*, *V. incisa*, and other species of South American origin, and this compound we call *the* vervena, which, in its collective character, may for garden purposes have the rank of a species. It is not improbable that it has the power of a species too, for the cultivators cross the varieties only now, fearing to spoil the flower by the introduction of any more alien blood. The great range of variation of this favourite is explained by its origin : it presents us with all colours save yellow, but its

range is chiefly in the shades of red and purple, passing to pure white in one direction, and purple-blue in another. The parent species were introduced to cultivation from 1826 to 1837, and therefore we may regard the present subject as somewhat of a novelty, although, in the language of the garden, the verbena is quite an old flower, because we have seen it come in and go out of fashion. Its beauty remains—change of fashion does not affect that; and its usefulness is not greatly diminished, even though the verbena is no longer in much request as a bedding subject.

The generic name refers to the vervain, or *ferfain* of Celtic superstition. This, the *Verbena officinalis* of British botany, was in great repute in pagan times as a herb of sacrifice and a medicine of great power. The Roman poets frequently allude to it, and the later gatherers of mystic lore found it useful to adorn their verses. Spenser associates the “dull poppy” with the “vein-healing verven;” and Drayton declares the “holy vervayne” to be “’gainst witchcraft much availing.” The vervain is as nearly destitute as may be of any useful property, and the South American verbenas are in the like case; they have but their beauty to recommend them, and that is sufficient.

The garden verbena fell from its high estate in a way that many other favourites have fallen: not through the frown of public disfavour, but by the prevalence of a mortal plague. What was called “verbena disease” compelled in many cases a discontinuance of the cultivation; but as the plant fell into neglect the disease disappeared, and its health and vigour were restored—a fact very suggestive of the evil of what has been termed “over-cultivation.” The fact is, the gardeners had to crowd and starve thousands of plants to keep pace with the demands of the



bedding system, and the verbena suffered most of any, for the sufficient reason that it cannot endure to be crowded and starved. It requires generous culture, in a somewhat pure air; and being nearly hardy, debility of constitution must result from crowding it in warm houses for months together, to be followed by planting it in poor soil to brave the summer heat with insufficient root hold.

The verbena requires a rich loamy soil, a somewhat moist position, and a free and pure air. The heat of the stove is deadly to it; and to be dry at the root for any length of time—as must happen often when large numbers of plants are wintered with the aid of but few attentions—is certainly injurious, if not deadly. When employed for bedding, the plants should be wintered in a cool, airy house, with the aid of sufficient heat to keep out frost; and a new stock should be propagated from cuttings of the tender-growing tops in the month of March. When carefully managed, these young plants have the vigour of seedlings, and when planted out at the end of May, in beds of rich loamy soil, make a free growth and flower superbly. It is not good at any time to pot rooted runners or to divide old plants; it is always best to make plants from cuttings in the autumn, and from these to make a fresh stock from cuttings in the spring. The verbena roots so readily, and is of such kindly growth when treated fairly, that there should be no difficulty in its management as one of the best of plants for the summer flower garden.

As a frame plant, to grow into specimen form, the verbena is of great value. For this purpose, a beginning should be made with autumn cuttings, and in the spring these should be put into five-inch pots, and be shifted on until they fill eight-inch pots, the growth being trained out

on a wire balloon, or any kind of trellis that may be preferred. Having flowered, they should be destroyed, and the stock of specimens kept up by a succession of young plants.

It is a simple matter, and especially worthy of the attention of amateur cultivators, that the verbenas may be grown as an annual from seed, and will afford a delightful display of colour in the summer and autumn. The seed may be sown in autumn, and the plants may be wintered on a shelf near the glass, and being shifted in March to insure vigour of growth, may be planted out in May for flowering. But where this routine might be inconvenient, sowing in March will suffice; a moderate heat will soon bring up the seed, and the young plants will need only the usual treatment of half-hardy annuals to insure the most satisfactory results.







MAJOR CONVULVULUS.

## MAJOR CONVOLVULUS.

*Convolvulus major.*



HIS sweet old favourite is best known to botanists as *Pharbitis hispida* or *Ipomœa purpurea*; but the garden name of Morning Glory might be sufficient for present purposes, for it is universally understood. The plant was known to Parkinson, who, in 1656, described it as the “greater blew Bindweede, or Bell-flower with round leaves.” Linnæus named it *Convolvulus purpureus*, under which name it was figured and described in the *Botanical Magazine*, 1790, tab. 113. In Miller’s “Gardeners’ Dictionary” it is described as “an annual plant, which grows naturally in Asia and America, but has been long cultivated

in English gardens by the title of *Convolvulus major*. Of this there are three or four lasting varieties; the most common hath a purple flower, but there is one with a white,

another with a red, and one with a whitish-blue flower, which hath white seeds." Miller recommends sowing on the open border, "where the plants are designed to remain;" but it is better practice to sow the seeds in pans or pots, and nurse them under glass, so as to be strong and growing when put out in May for flowering. This secures to our subject a longer growing season than it can possibly have when sown in the open ground; and if planted out in rich light soil, it will soon run to ten or twelve feet, and present its lovely flowers in profusion. There is not a finer subject at our command for the study of delicate gradations of colour than this; its shades of red, blue, and purple are unique, and in its beauty of form it will ever surprise us, however familiar we may be with it. In the catalogues of the seed-houses, about a dozen varieties are offered, but they are all to be found in a packet of mixed seed.

A hardier species of convolvulus is that known as *Ipomœa hederacea*, or the ivy-leaved pharbitis. The leaves are three to five lobed, the middle lobe ovate—a character peculiar to this species. The usual colour of the flower is deep glossy blue; the petals are rough, with yellowish hairs. This species may be sown on the open border with better prospect of success than the finer and more free-growing plant above described, and both are worth a place in any garden.

A grander plant than either of the foregoing is the red and blue convolvulus (*Ipomœa rubro-cœrulea*), a native of Mexico, introduced about 1823, but not fully recognised until the year 1834, when it was figured in the *Botanical Magazine*, t. 3, 297, from specimens flowered in the garden of John Allcard, Esq., of Stratford Green, Essex. The seeds from which Mr. Allcard's plants were grown were

collected by Mr. Samuel Richardson, in the province of Guanaxuato, in Mexico, and were sent over to Mr. Powles, of Stamford Hill, who liberally distributed them.

This fine plant has purple-tinted branches, large cordate pale green leaves, and axillary clusters of flowers, which are most elegantly wreathed in spiral folds of red and white while in bud, but finally open to flowers that are five-lobed, and of a clear pale blue colour, sometimes striped with white. Being raised from seed, and sown in February or March, and carefully grown on in a warm house, the plants may be put out in June in a warm, sheltered situation, and soon after will begin to show their lovely flowers.

The minor convolvulus (already figured and described : Vol. IV., p. 61) is known as *Convolvulus minor* and *Convolvulus tricolor*, the three-coloured convolvulus. This is truly a hardy annual, that may be sown in autumn to stand the winter, or with other annuals in the spring. It forms a beautiful bed when in a sunny position on the north or west side of a house within view from the windows. The fresh flowers that open with the morning will all turn their faces to the south or east, and thus will be seen to peculiar advantage. The combinations of blue, yellow, and white in the flowers afford a rare lesson in colour. There are many varieties, and mixtures are generally preferred. But the finest form is undoubtedly the dark purple ; it is truly sumptuous in colour.

A sweet rockery plant is the Mauritanian convolvulus (*C. Mauritanicus*), of dwarf habit, producing in summer lovely light blue flowers. It is not quite hardy, and must, therefore, be wintered with other tender bedding plants under glass, and planted out again in summer. It is

admirably adapted for baskets to suspend in the greenhouse, but is very happy in a sheltered nook in front of the rockery.

There are a few hardy species worth a permanent place in the garden. *Convolvulus dahuricus* is a fine twining perennial with purple flowers. *C. sepium* is a grand plant with white flowers, but a dangerous intruder if allowed to run at its own sweet will. *C. sylvaticus* is a delightful plant to run over a rough bank, and *C. scammonia* makes a pretty pole plant, full of delicate suggestions for an artist.









DAY LILY.

## THE DAY-LILY.

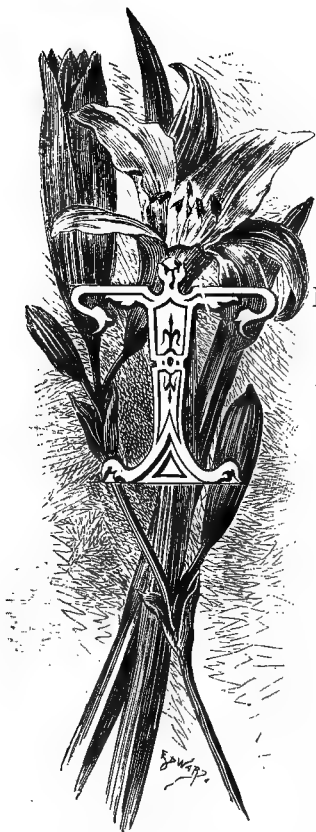
*Hemerocallis flava.*

THE day-lily is not in high repute.

Nevertheless there are not many plants that can surpass it in usefulness or beauty. *Imprimis*, it will grow in any soil, and if the villainous spade chops its unseen roots, it will come through the trial and sprout up again in the way of a mutilated horse-radish. It will thrive under the deep shade of plantations where the ground is as dry as dust all the summer, and pretty well exhausted of all goodness by the hungry roots of the trees. When in flower a large clump presents a beautiful appearance, and when not in flower the

fresh cheerful green and the elegant outlines of the sword or sickle-shaped leaves are pleasing features. But there remains to be told a fact "not generally known," and it is that this beautiful lily may be turned to excellent account to furnish fodder to cattle, and more especially to cows in milk.

As garden plants the day-lilies deserve much more



attention than they have as yet obtained. Their flowers are showy and fragrant, and there are in cultivation about a dozen species and varieties, all highly ornamental. The commonest of the series are the yellow (*Hemerocallis flava*) and the copper (*H. fulva*). Amongst the many good things secured to us by the late Mr. Robert Fortune—most fortunate of botanical travellers—was the Japan species (*H. kwanso*), of which there are two or three varieties. One of these, called *Kwanso flore pleno*, has green leaves and double yellow flowers; the other, called *Kwanso flore pleno foliis variegatis* (which, if not long enough, may be lengthened by prefixing the generic name *Hemerocallis*), has splendidly variegated leaves and double yellow flowers, and atones for the length of its name by the fact that it is the finest hardy variegated-leaved plant in cultivation! There are many costly stove plants grown for the beauty of their leaves that really come short of the splendour of this hardy plant, which may be purchased for a couple of shillings and grown in the commonest soil, and will, with very little care, make a superb ornament for the conservatory or for the choicest rockery or border.

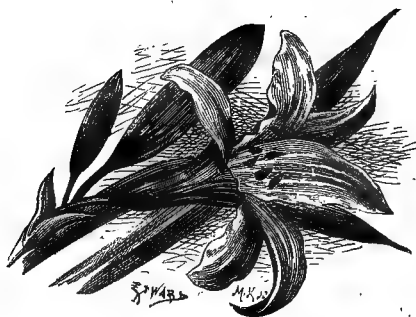
To do justice to the three day-lilies that have been named thus far, *H. flava*, *fulva*, and *kwanso*, will prove an agreeable task for one who is earnest in gardening. But there are a dozen more worth having, such as Dumortier's (*H. Dumortieri*), with narrow leaves and reddish-brown flowers; the grass-leaved (*H. graminea*), also with narrow leaves, but with yellow flowers, which are scarcely so handsome as those of *H. flava*. The two-rowed (*H. disticha*) has the leaves set in two rows very distinctly; the flowers are yellow without and reddish within. Nor

need we stop here, for there is a pink-flowered species called *H. Japonica*, less robust in growth than the others, but well adapted for a place on a rockery, where its form will contrast well with the tufted plants. And yet one more, which brings us back to the subject of the plate. The common yellow day-lily may be obtained in a variegated form, the variety being catalogued as "striatis." It is not equal to the variegated kwanso, but it is a fine plant, and worthy of pot-culture to decorate the conservatory while its elegant striped leaves have the freshness of new growth upon them.

Shady borders give much trouble, and whatever may be grown in them with some degree of certainty must be made much of. The day-lily is one of the very best of plants for such places, provided it can obtain a fair share of the rainfall of the winter. Deciduous trees permit the herbs at their feet to live by affording access to them of the rain that falls between November and April; but evergreens are less merciful and kill everything beneath their shade. The veratrums are noble associates with day-lilies in shady borders, and two very humble but elegant weeds, the Enchanter's nightshade and the dwarf elder, may be allowed to run amongst them.

The starved appearance of shady borders is often the consequence of starving treatment. In a general planting or renovating, a really radical system should be adopted. All ill-looking shrubs that are in a dying state should be rooted out and cast on the rubbish-heap. The ground should be well dug and liberally manured, care being taken to spare the large roots of the trees from injury. If a few "wigs" of the smaller roots are cut out it will not much matter. The ground being thus prepared, strong well-

rooted plants of suitable kinds should be planted, the most useful shrubs for the purpose being common Privet: ever-green and deciduous *Euonymus*, Yew Box, Holly, *Ruscus*, *Skimmia*, and all the kinds of Ivies, the green-leaved ivy known as "Hibberd's Emerald" being one of the best. The large-leaved Periwinkle and the sweet Woodruff may be mixed in the front line or put in clumps, with sheets of white violets between.





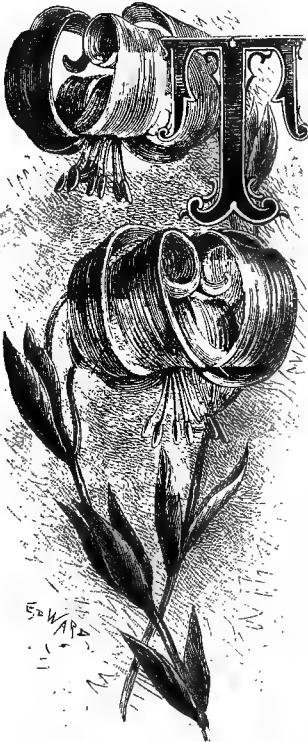


LILY OF THE FIELD



## LILY OF THE FIELD.

*Lilium chalcedonicum.*



THE lily of the field is not of necessity a lily of any kind that will correspond to our definitions; it may be understood as a flower, and that is sufficient. To make a serious botanical study of the purport of the impressive lesson of the lily in the Sermon on the Mount would be to put our paltry views of nature on a level with the most homely and searching of Divine admonitions. It must suffice, therefore, to say that the frail flower painted by the creative hand surpasses in glory the greatest works of man, and teaches him the sources of his benefits and his dependence on the bounty of Heaven. But associations have their uses to the mind of man, and it is neither irreverent

nor unreasonable to ask if any particular lily might be associated with the lesson that has sunk deeper perhaps

than any into the human heart. There are probably only two species of *lilium* common to the Holy Land; at all events only two are mentioned in Dr. Tristram's "Survey of Western Palestine." These are *Lilium candidum*, seen wild on Lebanon, and *L. chalcedonicum*, marked as not seen, though known to be in the country.

This lily is known in gardens as the scarlet martagon. It is, however, quite distinct from *Lilium martagon*, which is commonly called the Turk's cap. The last is one of the commonest lilies, but a good border flower for all that, and one that has many forms, as, for example, the pure white and the Dalmatic, the colour of which is blackish-purple. The common variety is of a dull purple colour, by no means attractive, nevertheless pleasing and useful.

The scarlet martagon is not common, although easy to cultivate and resplendent in its beauty. In the later days of July it presents a liberal head of turban-shaped flowers of the most brilliant sealing-wax red colour. It is quite hardy, and thrives in any good soil, but is not happy in a calcareous soil nor in one that is of a poor dry nature.

How far east this lily extends we do not know. It is probably scattered through the temperate parts of Southern Asia, for we meet with one very much like it in Japan, the book name of which is *L. callosum*, less in growth than *chalcedonicum*, but serving fairly well as a small copy of it. Another nearly related kind is *L. carniolicum*, of which there are vermilion and yellow varieties.

For the full enjoyment of lilies a considerable extent of garden is necessary, for when many kinds are planted in proximity their several beauties seem to neutralise each other. In isolated clumps and groups, set off by masses of leafy vegetation, these distinct and striking flowers appear

to singular advantage. Most delightful is it in a walk through a woodland scene to come upon great clumps of *L. auratum*, the golden-rayed lily of Japan ; or the cream-tinted, sometimes buff-coloured, *L. testaceum*, also known as *L. excelsum* ; or, most noble of all, and least of all understood, *L. giganteum*, that loves a deep, damp bed of loam or peat, and needs shelter in the spring from the frosts that are then so destructive.

The cultivation of lilies in pots is much practised, and with many special advantages. In large gardens pot lilies are needed for the conservatory and entrance hall ; in market gardens they are wanted to supply cut flowers in advance of the season for lilies in the open ground. The amateur who would succeed in growing lilies in pots must observe a few golden rules. In the first place the potting should be completed at the earliest time possible after the plants have flowered, for immediately the flowering is over they begin to make new roots. If the bulbs have to be purchased, therefore, orders should be given early, and the potting should be completed immediately the bulbs come to hand.

Another golden rule is to insure perfect drainage by packing the crooks with care before the compost is put in the pots, for unless surplus water can escape readily, the soil will become sour, and the plants will not prosper. As regards the soil, a mellow hazel loam containing abundance of vegetable fibre, such as loam from rotted turf, will suit any lilies, as will also turfy peat of the best quality. The lovely *L. longiflorum* is decidedly partial to peat, but will thrive in loam with the rest. A calcareous soil is not good for any of them. Finally, all lilies enjoy liberal watering and abundance of light and air.

The most useful lilies are the following :—*L. Browni*, with very large trumpet-shaped flowers, white, delicately striped outside with purple. *L. auratum*, a giant of its race, the flowers expanded, with yellow or red stripes on a white ground. *L. candidum*, the common white lily, thriving almost anywhere, and yet a little fastidious. *L. chalcedonicum*, always thriving best in a rich deep loam. *L. croceum*, good and cheap, very accommodating. *L. elegans*, usually orange red, but variable, and always useful. *L. longiflorum*, a lovely trumpet-shaped flower of the purest white ; it requires a peaty soil, but is not very particular ; in a cold locality a sheltered spot should be selected for it. *L. tigrinum*, the tiger lily, is very gay, and some varieties flower late ; hence the Laureate puts it into the autumn garland :

“Heavily hangs the broad sunflower  
Over its grave in the earth so chilly,  
Heavily hangs the hollyhock,  
Heavily hangs the tiger-lily.”







COMMON FLAX.



## COMMON FLAX.

*Linum usatissimum.*

THE garden of economic plants exists in idea only; there is no such thing as a matter of fact. The subject now before us suggests that a studious amateur gardener might accomplish what has been accounted one of the greatest triumphs imaginable—the creation of a new pleasure—by forming a garden of economic plants. Some of these are exquisitely beautiful, and others, that might not attract by their beauty, will always interest by their direct relation to our daily comfort and to our national prosperity;

for mere usefulness is in one sense true beauty, but when we make that declaration we must beware of being overheard by professors of extreme æstheticism. In the garden of economic plants we should find the flax, of course, and the hemp also. How few amongst the thousands who have gardens really know either of these plants! Where shall we find the pretty lentil from the seeds of which Jacob made

his mess of pottage? Who knows the canary grass, with its handsome plumes that finally shed shining seeds for the little birds? How many of our wayside botanists could find us the earth-nut, if a sudden famine made its sweet and nourishing root acceptable in the place of bread? The beauty of the cotton plant is unsuspected, and the sugar maple gives a shade that is very pleasant. It is easy to begin, but no one can say where we should end in collecting and cultivating economic plants.

The common flax (*Linum usatissimum*) is a beautiful plant, likely to appear, with the hemp and the canary, as mere weeds in the garden of the bird fancier, because the waste of the cages must be sometimes scattered. As regards the flax, it is a weed of the world, for it occurs everywhere as a wilding, not only in Europe and Northern Africa and Asia, but in the southern hemisphere, having been carried by the hand of man wherever he has carried merchandise. It is a tall, slender, exceedingly neat plant, with narrow lanceolate leaves and flowers, crowning the stems in a loose corymb, conspicuous for their large size and their bright blue colour. The petals are obovate and the sepals are pointed. The oily seeds are contained in a depressed globular capsule; they are of a rich dark brown colour, glossy, of a peculiar flavour, and in their medical uses decidedly laxative. It is not often they are given to caged birds, but every one who has the care of these interesting creatures should keep a few "linseeds" in the store-room in case of emergency. Birds that are fed almost exclusively on canary and hemp, with perhaps insufficient vegetable food, may be benefited by an occasional treat of two or three of these oily laxative seeds. The oil that is pressed from linseed is of great importance in the arts,

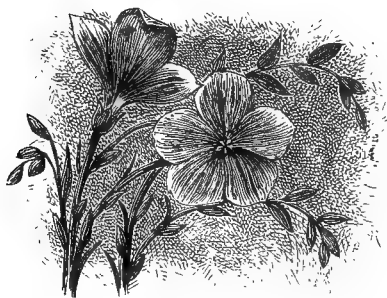


one of its uses being to supply the principal material for printers' ink. Indeed, the flax has done more for literature than any other plant that can be named. The linum, or lin, supplies from its stem the fibre for linen, and from linen waste is made paper. The ink and the paper may therefore be said to be derived from one and the same source, and this plant is the commonest thing in the world, and grows everywhere, while as to its beauty, we may search far ere we shall find a plant of its own range of habit and colour that can surpass it. To compare it with the plumbago is not unfair, and we incline to the opinion that in the comparison the flax will have the best of it.

There are four British species of flax, perhaps; at all events, there are four in the books. One we will consider disposed of. The next is the perennial flax (*Linum perenne*). It often so nearly resembles the common species that we doubt its specific independence. However, the sepals are obtuse, the root-stock is perennial, the stems are sometimes procumbent, and the plant is a mountaineer, whereas the common flax is a lowland plant. The pale flax is *Linum angustifolium*; it has pointed sepals, but in general complexion resembles the perennial flax, and it is sometimes a perennial and sometimes an annual. Its common name indicates that its flowers are of a paler blue than the others. The cathartic flax is a slender annual with white flowers, and one that will puzzle the young botanist who has not yet mastered the characters of the flax family.

The Alpine flax (*L. alpinum*) is perennial, and of exceedingly dwarf habit. It is a pretty rock plant, and requires a sunny situation and a dry soil. The one-styled flax (*L. monogynum*) is so called because it usually has one style instead of five, but this character is not constant. It

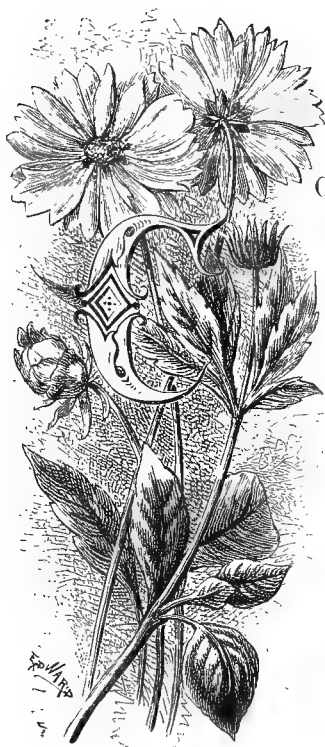
is a fine, showy plant, producing large white flowers, and is quite hardy in a well-drained peaty soil. It may be raised from seeds or cuttings, but is not easily increased by division. But the finest of all, after the scarlet flax, is the yellow flax (*L. flavum*), which is often grown in quantities for the flower markets, the best proof possible of a certain quality which the florists denominate usefulness. It is a gay, hardy perennial, good enough for any garden, and very distinct in all its characters. It does not often ripen its seeds, but it is easily multiplied by cuttings. The flowers are golden-yellow, opening early in the morning. The evergreen flax (*L. arboreum*) is of shrubby habit, the leaves are greyish-green, the flowers yellow; a good rockery plant. The Narbonne flax (*L. Narbonnense*) is a grand species, a little tender. The flowers are light blue.







COREOPSIS.



## THE COREOPSIS.

*Coreopsis lanceolata.*

COMPOSITE plants so abound in all parts of the earth, and more especially in temperate and sub-tropical zones, that it is impossible to regard them collectively without experiencing a tendency to speculate on the beginnings of things. Are they the radiata of the vegetable kingdom, and therefore somewhat primitive in the chronological sequence of vegetable development? Are they primordial? No; we will get away from such questions, and for the present rest content in saying that there are 9,000 species of composite plants

known to botanists, and they constitute about a twelfth part of the entire vegetable kingdom. Considering their number, the proportion of useful plants amongst them is small, but in respect of their usefulness there is just the same sort of family likeness that we discover in the cross-worts and the grasses. As in the crucifers a whole-

some pungency is the predominant property, and in the grasses there is an almost complete absence of medicinal virtue, but a prodigious power of producing food, so the composite plants are characterised by the production of a tonic stimulant, and the fragrance of the camomile is in many ways repeated in this vast group of plants. But we shall not seek in vain for useful plants among the composites, for the lettuce, endive, salsify, artichoke, and sunflower are composites; and if we can for once put the *dulce* before the *utile*, we shall find an immense assemblage of these plants adorning our gardens. The dahlia is one of the number; the coreopsis is another. Between the two how great and glorious is the floral throng!

The coreopsis, or calliopsis, is one of the first among garden plants to make an impression on the young amateur florist. It is sure to be included in his first purchase of garden seeds, along with the Virginia stock, ten-week stock, sweet-pea, and mignonette; and as these are all good things, we may congratulate him that he begins the world well in floriculture, and deserves to prosper. And our plant belongs to that happy-go-lucky family of flowers, the seeds of which may be sown where they are to remain in almost any kind of soil, and will come to gladness rather than grief, even with very bad gardening. Short of taking them up every two or three days to see how they are getting on, they will bear almost any amount of mistaken kindness, such as watering too much or not watering at all; being left as "thick as thieves," instead of being thinned betimes, and in being located in a shady place instead of the full sunshine. One of our sages has remarked that "Nature never did betray the heart that loved her;" but it seems Nature goes out of her way to encourage and

accommodate the hearts that love her “not wisely,” but she does not know of those who love her “too well.”

The seedsmen’s catalogues will show that there are many sorts of coreopsis in cultivation. They are all good, and therefore all worth growing. They are mostly adapted by their height for the second or third row in the border, and as they are rather late in flowering, they should be sown as early in March as may be convenient.

The coreopsis takes its name from the resemblance of its seeds to a *koris*, or bug; but the name might by the fanciful, who care nothing for philology, be derived from *korus*, a helmet, because that word has grown so as to cover anything that glitters; and a bunch of coreopsis may be properly spoken of as a floral coruscation. And it is not a long way round to derive a coruscation from a helmet, because a few thousands of bright helmets moving in a mass make a glitter worthy of a grand name. In North’s “Plutarch” (p. 395) we read of the Thracians and Macedonians, that “the glistening of their harness, so richly trimmed and set forth with gold and silver, the colours of their arming coats upon their curaces, after the fashion of the Medes and Scythians, mingled with the bright glistening steel and shining copper, gave such a show as they went and removed too and fro, that made a light as clear as if all had been on a very fire, a fearfull thing to look upon.” Having digressed so far upon the hint of a fanciful derivation, and knowing it to be as nice to be hung for a sheep as a lamb, we subjoin an extract from More’s “Psychathanasis” (II. 2, 16), in which occurs a quaint illustration of the possibilities of speech:—

“But oft when the weak body’s worn and wasted,  
And farr shrunk in, the nimble phantasie

(So far shee's from being withered and blasted)  
More largely worketh, and more glitterandly  
Displays her spreaden forms, and chearfully  
Pursues her sports."

The other generic name by which these plants are known, *Calliopsis*, means "beautiful flower," or "lovely eye;" or it may be regarded as a reminder of Calliope, the first of the nine muses, who was not only lovely to look upon, but had an enchanting voice.

All the species of coreopsis are natives of the New World, where they range from far north to the hottest of the West Indian islands. It is usual to speak of the genus as consisting wholly of yellow-flowered plants, but *C. alba* has white flowers; *C. diversifolia*, crimson; *C. rosea*, red; and *C. atropurpurea*, dark purple. Several species are in repute as dye-plants on the American continent. *C. tinctoria* is so called on account of its value to the dyer; but perhaps *C. tricolor* is of more importance—at all events, it is not the least of its kindred in its economical relations. Although the flowers of these dye-plants may be yellow, the dye obtained from them is red.

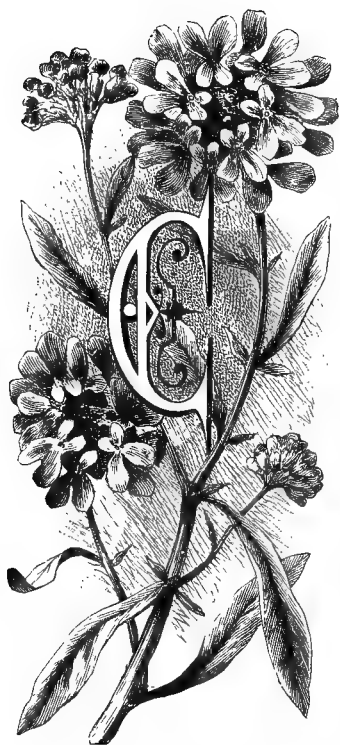








CANDYTUFT.



## THE CANDYTUFT.

*Iberis umbellata.*

ANDY, or Candie, is the old English name for the island of Crete, and the tufted flower before us having been brought from Crete, obtained the name of candytuft. It is recorded by Gerarde that he received seeds of the "candie-mustard" from Lord Edward Zouche, and that they produced in his garden flowers that were "sometimes blewe, often purple, sometimes carnation or horse-flesh, and seldom white," their leaves being of "a graie or ouerworne greene colour." The generic name *Iberis* refers to the

Spanish peninsula, the ancient Iberia, where the candytufts abound.

These are cruciferous plants, and particularly worthy the attention of young botanists, because of the irregular form of the corolla. One of their number is an inhabitant of Britain: it is *Iberis amara*, the bitter candytuft, a rare weed in chalky corn-fields, more often met with in Oxford-

shire and Berkshire than in any other parts of the country. This produces white flowers, which are followed by two lobed seed-pods, which have been valued for their real or supposed curative effects in heart disease and asthma. Whether the plant is, strictly speaking, a native, is at least doubtful, but we will not dwell on a point so abstruse.

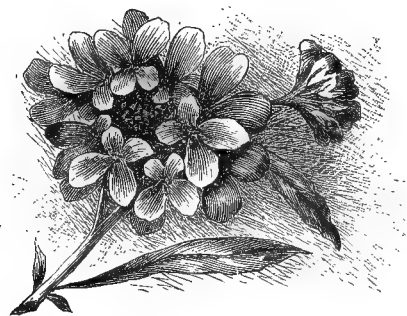
The candytufts may be divided into two classes, the annual and the perennial. They are amongst the cheapest, the most gay, and the most easily managed of our garden flowers. The annual kinds may be sown in autumn to bloom in the month of May, or they may be sown in spring to bloom in June and July. In the seedsmen's catalogues will be found a beautiful series of varieties, the whole of which may be grown to advantage in any garden where there is room for an assortment of gay flowers. The most distinct of these are the umbelled candytuft (*Iberis umbellata*), of which there are varieties with white, purple, crimson, and rose-coloured flowers; the fragrant candytuft (*I. odorata*), which has white flowers agreeably scented; the pinnate-leaved (*I. pinnata*), with flowers whitish in heads which lengthen as the flowers expand; the rocket candytuft (*I. coronaria*), a fine white flowering kind, allied to *I. umbellata*. When sown in spring these require a rich moist soil and a sunny situation; when sown in autumn a dry soil is to be preferred, because of the risk of loss during the winter. They are, however, quite hardy, and as regards conditions by no means exacting. One thing must be mentioned—they do not transplant well; therefore it is best to sow them where they are to flower, and thin out as soon as possible, so as to isolate every plant, for wherever they are crowded they will be weak in growth, and produce but few and poor heads of flowers.

The perennial species are fine plants for the border and the rockery, and will without harm bear a certain amount of shade. Any good loamy or gravelly soil will suit them. They thrive on chalk, but on undrained clay they are liable to injury in winter, and if really in a swampy place will certainly perish. Although classed as "herbaceous," these candytufts are miniature trees or under-shrubs, richly green all the winter through, and flowering in spring or early summer most profusely. They are models of neatness, and when they attain to some size they are paragons of beauty, as none would dispute after seeing our plants, measuring a yard across, of the lovely white flowering rock candytuft.

The most useful of this section are the following:—*Iberis corifolia* (the coris-leaved candytuft) is very dwarf, and flowers early; the flowers pure white, the growth densely cushioned. *I. coriacea* (the thick-leaved candytuft), probably a hybrid; it is of shrubby habit, and rises to a foot in height; the leaves oblong spatulate, the growth free, the flowers pure white, produced in great abundance and rather late; one of the finest hardy rock-plants we have, needing only an open sunny position to give joy to all beholders. The Gibraltar species (*I. Gibraltarica*) is a straggling grower, the flowers, blush-white, appearing early; it is a good rock-plant, but not tidy enough for a highly-dressed border. The rock candytuft (*I. saxatilis*) is the most useful of all; it grows compactly, has a fine green colour all the winter; the leaves are linear and rather fleshy, the flowers white and lasting long. Tenore's candytuft (*I. Tenoreana*) is like the Gibraltar plant, but less robust, and less to be desired, as it is apt to die off in winter unless in a warm, sheltered, and well-drained soil.

All these may be grown from seed; but they do not

always produce seed, and it is scarcely worth while looking after it, because they can be more advantageously raised from cuttings. These should be taken when the growth of the young shoots is nearly completed, and just before they begin to harden. Dibble them into a bed of sandy earth, give them a sprinkle of water, put a bell-glass or hand-light over, and—*forget them*. In about two months you may remove the bell-glass, for they will be all rooted. It will be well to leave them undisturbed until the month of April following, when they may be planted out to grow into specimens. Border-plants that are somewhat straggling in form may be improved by judicious pruning, and by pegging a few shoots into places that are vacant. We have had the rock candytuft on a highly-dressed border, and we kept all the plants in shape by annual clipping, the result being that they were as round and convex as watch-glasses. We do not advise any general adoption of this procedure, but where everything should be formal and precise it is at least admissible.

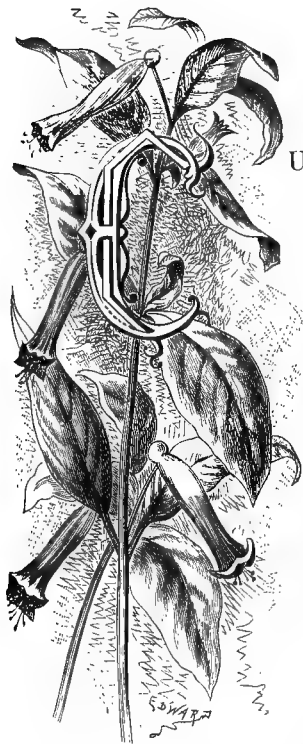






CUPHEA.





## THE CUPHEA.

*Cuphea platycentra.*

CUPHEAS restore to us the light of other days. Time was when all the lovers of gardens, and more especially the practitioners of chromatic colouring, were at fever heat in discussing the relative merits of *Cuphea platycentra* and *Cuphea eminens* and *Cuphea miniata*, and all other cupheas, known or unknown, that might be located in the parterre to the advantage of its systematic artistic colouring. "But now"—the scene is changed; the men are changed; the fashion is changed; cupheas are unknown—

"The light of other days is faded,  
And all their glory past."

But who shall say they are less beautiful than they were? who shall appraise a plant in the way of a broker, and value it by what it may fetch in the money market? "A thing of beauty is a joy for ever; its loveliness increases" where there are souls to appreciate it, and therefore we shall claim the cuphea as a "familiar garden flower," and in the fervour of

appreciation of its real merit forget the fame of an hour that it enjoyed as an integer in the now historical bedding system.

The plant before us is the real old "Crystal Palace" cuphea, the best of the bedding plants of that particular style and tone. When employed in the splendid displays of bedding at Sydenham it was found to be amenable to very simple treatment, and we shall condense for the good of our readers the system of culture adopted there by Mr. Eyles and Mr. Gordon, as communicated by them to us *pro bono publico*. The stock was raised from cuttings in June and July, and the earlier the better, generally speaking. When struck so late as September a fair bloom may be secured the following year, but the earlier struck cuttings make the best bedders, because in the spring they may be cut back so as to form very strong bushy plants for the summer display. The stock raised for bedding may be very well wintered in boxes, and if there is not enough of them, cuttings may be struck in heat in February and March, and will make useful plants for the beds, though lean as compared with well-wintered plants from autumn cuttings. Any good soil will suit the cuphea when bedded out, and a dry sunny position may be selected where there is ample choice. But if there is no choice, the happy conclusion may be laid to heart that it will do very well almost anywhere.

The virtues of the plant are not yet all told. Oh, dear no. It is a real gem for winter flowers, and whoever would keep a greenhouse or conservatory gay through all the dead season would do well to grow a few plants of this particular species. Strike the cuttings in May, and in the same month prune rather severely any old plants you

have to make bushy young plants of them. Grow them with care, so that they do not suffer for want of water, and when re-potting use a rich, mellow, sandy loam. But in all stages keep the plants in rather smallish pots, and you will find them almost always in flower. If you suspect you are carrying the starving process too far, help them with manure water. A few large specimens are worth having, therefore old plants cut back and re-potted as soon as they make new growth are likely to pay for their keep. The plant likes moisture, but it is dangerous to say so, because when liberally grown it is too leafy, and the flowers are few and very much hidden.

*Cuphea silenoides* is a good half-hardy annual, blooming from July to September. The flowers are purple, and a tinge of purple is seen in the branches. It is effective when massed with some yellow flower, but not of much account alone.

*Cuphea miniata* is an annual or perennial, at the will of the cultivator. The flowers are in leafy racemes, the petals purple or rose. It will flower all the summer in moist soil.

*Cuphea lanceolata* is a vigorous plant of erect habit, with conspicuous and beautiful purple flowers. The end of the tube expands into three divisions, two of which form what we may term top petals, and the third a broad notched petal. To liken the flower to an orchid would not be *outré*.

*Cuphea Torulensis* is probably the finest species known. The flowers are scarlet, tipped with yellow.

*Cuphea purpurea*, a pretty hardy annual, with bluish or pale purple flowers, will prove useful to associate with asters and balsams for autumnal bloom.

*Cuphea cinnabarina* may be grown to a fine specimen form as a greenhouse plant. The flowers are large, the

tube much puffed out, the limb expanding regularly like a miniature gloxinia, the colour pale red.

*Cuphea verticillata* is a nearly hardy species of moderate growth, the flower tube yellowish-red, the limb expanding irregularly and curiously, the colour violet.

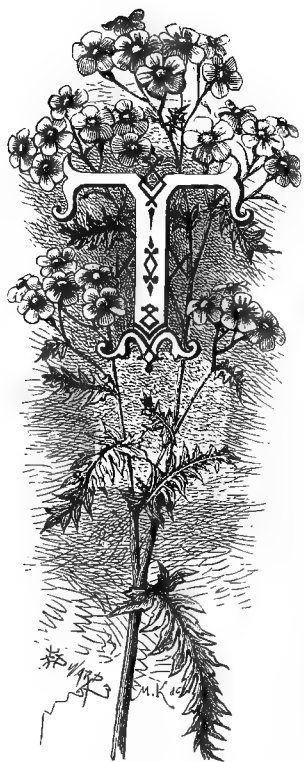
The cupheas belong to the family of loosestrifes, of which perhaps the best-known garden flowers are the lysimachias. That any of these will stop strife will of course be understood, or why should they have such a collective and enviable name? Hear what the great Pliny saith: "If a pair of yoked oxen quarrel, a branch of loosestrife laid upon their shoulders will effect an instantaneous and perfect reconciliation." Dodoens, speaking of the yellow lysimachia, says: "The perfume of this herbe dried, driueth away all Serpentes and venemous beasts, and killeth flies and knattes." Gerarde makes a variation on the drying of the perfume by saying, "The smoke of the burned herbe driueth away serpents;" and he quotes Pliny to the effect that "it dieth haire yellow; which is not very vnlike to be done by reason the flowers are yellow."







ROSY YARROW.



## THE ROSY YARROW.

*Achillea asplenifolia.*

O liken a flower to a gem or jewel of any kind is probably unfair, but the temptation is often too great to be resisted. The forget-me-not suggests the turquoise, the pimpernel may be likened to a coral, and the lovely flower before us is like a ruby, if it is like anything save its own sweet self. When a tuft of this yarrow is in full bloom there will not be found in the garden, however rich it may be, a flower of any kind that can surpass it in beauty, although many make more show and are not less worthy of our admiration. It is well to bear in mind that this is a distinct species

of yarrow, because it is commonly classed as a variety of the British *Achillea millefolium*, which in all its states and stages is unworthy of attention as a decorative garden plant; whereas the rosy-flowered or asplenium-leaved yarrow is at once a different plant, and far more beautiful both in leaf and flower.

As regards cultivation there is not much to be said. Any soil will suit this plant, but it needs a sunny aspect, or it becomes drawn and wiry, and fails to hold up its head. To increase the stock, it is sufficient to divide the roots when growth commences in the spring, but they may be divided at any time if it is a matter of importance to secure a quantity for any purpose. A large clump or bed has a rich and interesting appearance when in flower, and continues so for a considerable length of time. We have used it advantageously to plant amongst lilies, which really need some light spreading herbage to partially clothe and conceal their stems, and in fact the bare ground ought never to be visible where lilies grow, for it is their nature to rise out of grass and other light herbage, the roots of which are also indirectly advantageous to the lilies by quickly taking up any excess of moisture resulting from heavy summer rains.

The common yarrow we dismiss for the present as a mere weed, but we shall restore it to the garden presently, for a particular purpose. The yarrows most worthy of cultivation, in addition to the one here figured, are the following :—The sneezewort (*A. ptarmica*), a neat-habited British plant, with white flowers; the double variety is a serviceable thing to supply cut flowers. The woolly yarrow (*A. tomentosa*), a neat plant, with woolly leaves, and successive corymbs of gay yellow flowers. The great yarrow (*A. filipendula*), with rough pinnate leafage, and large heads of bright yellow flowers that rise to a height of four or five feet in a good soil and sunny situation. The silvery yarrow (*A. clavennæ*), a very neat plant, with white leaves and pretty heads of white flowers. This is a mountain plant, and requires a dry position on a rockery, in



a peaty or sandy soil, when it soon becomes a striking and interesting object. There are a few others of less importance that the hungry collector will soon discover, but they will not suit many of our readers.

It is time now to restore the common yarrow (*Achillea millefolium*) to a place in the garden. It has no claim to admiration in respect of beauty, although as a weed it is pretty enough. But it is of great service to clothe with fresh green herbage any hot, dry bank on which grass becomes unsightly in the height of summer. It is, in fact, a good lawn plant, bearing the scythe well, and enduring drought better than any other lawn plant, save, perhaps, the Dutch clover, which keeps a show of green herbage when the grasses are burnt up and as dry as stubble. The common camomile (*Anthemis nobilis*) has a similar power of endurance, and might be sown with yarrow and clover on dry chalky or gravelly soils where it has been found difficult to establish the true grasses as lawn plants. One other step may be taken to ensure a smooth and fresh greensward in the event of a droughty summer, and that is to set the mowing machine so that it shall not shave so close as to cut into the roots of the lawn plants, for many a good turf has been ruined by frequent close cutting, as though mowing and destroying were to be one and the same thing.

The yarrows are bitter plants, more or less aromatic, and for the most part innocuous. Having found a place for *Achillea millefolium* in the garden, we must now direct attention to the fact that it should have a place in the permanent pasture, as affording to cattle a needful astringent and stomachic. In some parts of Sweden it is employed in the making of beer, being at once a stimulant

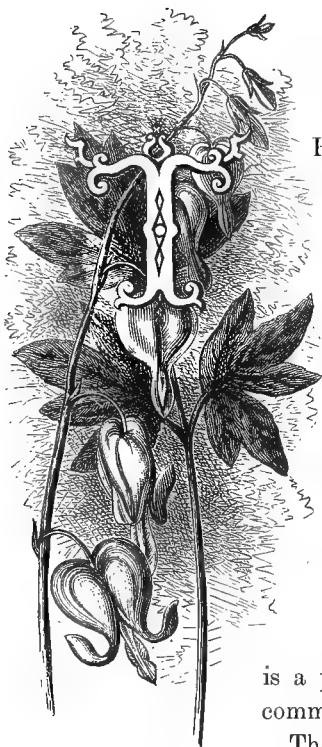
and an aromatic tonic, and, like the tormentil in certain parts of North Britain, a fair substitute for the hop. The sneezewort (*A. ptarmica*) has somewhat the flavour of tarragon, and may be used in place of it in a salad. When dried and reduced to powder it is a cheap substitute for snuff; hence its familiar name. Finally, several species of achillea, and possibly all, are in some degree applicable as substitutes for tea. We have in our wanderings tasted many curious kinds of tea, and can speak of two only out of the number as in any way endurable, and even at that undesirable. One was a brewing from a handful of new hay, which a sweet old dame declared delicious to drink, and a certain cure for all possible diseases. The other was a decoction of green sneezewort, which was also declared to be excellent in some way or other. It was endurable to drink, and soon suggested that a judicious use of it might serve one instead of a sea voyage, to promote one of the more famous and supposedly-beneficial consequences of a life on the ocean wave.







LYRE FLOWER.



## THE LYRE FLOWER.

*Dicelytra spectabilis.*

HIS extremely elegant plant bears a variety of names, and we may take our choice amongst them. It is a *Dicelytra*, a *Dicelytra*, a *Dicentra*, a *Fumaria*, a *Corydalis*. We prefer the first of these generic designations, because it was adopted on the occasion of the introduction of the plant to this country, and we are, therefore, accustomed to it, and object to any change. Moreover, the two styles on which the original name is founded are conspicuous features of the flower, and there is a pleasing euphony in *dicelytra* that commends it to the ear.

The fame of this plant had gone out into many lands where the plant itself had never been seen. It was never seen alive by Linnæus, but he described it from dried specimens, and thus filled Europe with the hope of obtaining and keeping it. It was Robert Fortune's good fortune to meet with it in the north of China, and to

transmit it safely to the Horticultural Society of London, by whom it was received in 1846. Many a more costly acquisition may be referred to as testimony to the usefulness of this society, but this cheap, common, and very charming plant confers as much honour as any upon those who have enabled every cottager to obtain it to give light to his homely garden. How delicate is its leafage; how elegant the curved raceme bearing its two-winged or lyre-shaped pendent flowers of the most exquisite tint of rosy pink!

Although hardy and accommodating, this plant needs a little care to ensure a free growth and a plentiful bloom. It will grow in any soil, but is happier in a deep, mellow, sandy loam than in a stiff clay or starving limestone. Moreover, a certain amount of shelter is to be desired for it. On our heavy land in a northern suburb of London we have seen it many times cut down by frost in the month of May, and half blown away by strong wind in June. The finest plant we have ever seen was in a little front court of a small dairy in Highgate, where, for several summers in succession, there was a tuft of dielytra quite four feet high and as much through, the supreme elegance and richness of which we could not hope to describe. It was sheltered by high walls in a very close, snug spot, and no doubt the soil was well drained, warm, and fertile, for it is not often that fine plants of any kind spring out of the "riddlings of creation."

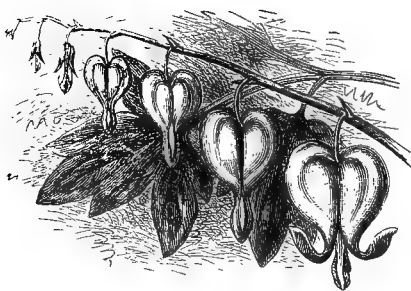
The amateur who has accommodation for a display of spring flowers under glass will find this plant invaluable to associate with hyacinths and early tulips and tazetta narcissi in the conservatory. As a pot-plant it is one of the easiest to manage, for it grows freely in the spring in

a sunny greenhouse, and provided it obtains water enough, is pretty sure to flower finely. We have never seen an aphid or any other insect enemy upon the plant, and we found it a very easy matter to produce great specimens in ten and twelve inch pots, although the most useful plants are those that make a bountiful head of bloom in pots of seven to nine inches diameter. The soil that suits fuchsias is the best for dielytras, and nearly the same treatment throughout will suit both those plants; consequently they may with advantage be grown together.

A nearly allied plant of great beauty is *Dielytra eximia*, which has fern-like leafage of a brilliant golden-green colour, and elegant racemes of purplish-red flowers. This also is worthy of pot-culture, and is invaluable for the front of a rockery. *Dielytra chrysantha* is a fine border-plant producing yellow flowers. A more humble but pleasing little plant is *Dielytra cucullaria*, which should be planted in a sheltered shady nook of the rockery; it forms a cushion-like tuft, which during summer is covered with racemes of small white flowers. In searching for any of these in a trade list, it will be well to bear in mind that they are often entered under the name *Dicentra*, and occasionally under *Fumaria*. They are all fume-worts, and allied to our gay garden flower, the yellow corydalis (*Fumaria lutea*), which delights to run over an old wall and adorn it with tufts of golden fringe.

The annual and biennial kinds of corydalis and fumaria are but little known, but they well deserve the attention of amateurs. The seeds may be sown in autumn or spring, and if the clumps are severely thinned, a good growth and an abundant bloom will be ensured. They are especially

useful on rockeries and rough banks, where, having been sown once, they will in many instances obtain a permanent position by means of self-sown seed, which are freely scattered if the plants are left alone. *Corydalis glauca* and *Fumaria capreolata lutea* may be mentioned as good examples of this class of flowers. There are many first-class annuals that maintain themselves by self-sown seeds—as the mignonette, nemophila, eschscholtzia, and others.

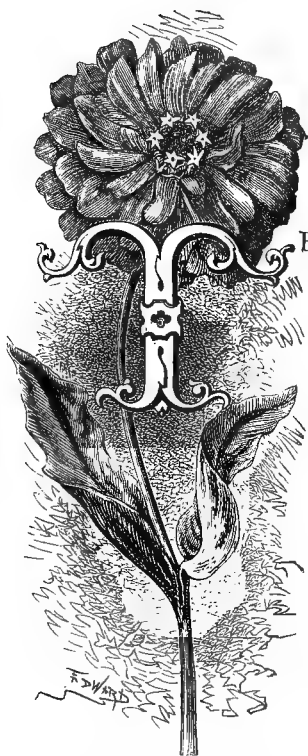








ZINNIA



## THE ZINNIA.

*Zinnia elegans.*

HERE are some eight or ten species of zinnia known to gardens, but only one of them has become a favourite, and that abundantly deserves the pre-eminence it has attained as one of the most splendid of our annual flowers. The figure carries us back to the original form of the flower as it was known fifty years ago, and it represents very faithfully the variety known as "coccinea," or the scarlet-rayed zinnia. The species was introduced from Mexico in 1796, and the scarlet-rayed variety came into our hands in 1829, and was thought much of

for its brilliant colour and stately habit. During the fifty years that have elapsed since it appeared, the flower has been improved in all its characters, and we now possess a race of perfectly double zinnias, the flowers of which show no central disc, but are perfect rosettes of exquisite form, and of every shade of colour except blue. There is not a more striking instance of floral advancement, accomplished by

systematic selection, than is afforded by the zinnia, which is at once one of the largest, most various, and long-standing of our many good and cheap annual flowers.

The zinnia is named in honour of J. G. Zinn, Professor of Botany and Natural History at the University of Göttingen. He was born in 1726, and studied under Haller. One of the most important of his labours was a demonstration of the relation of vision to the action of the brain as well as to the structure of the eye, the particulars of which were given in his essay entitled "*Descriptio Anatomica Oculi Humani*." Another important service rendered to science was his catalogue of the plants in the Academical Garden of Göttingen. He died in April, 1758, at the early age of thirty-two.

The zinnia belongs to the great family of composite flowers, and is a native of Mexico. It is sometimes called the Mexican marigold—a designation in some degree justified in the case of the yellow varieties, but by no means to be encouraged, for in its essential character it is some distance removed from the genus *Tagetes*, and its normal colour is red or crimson; and hence the finest varieties are certainly not, even by a stretch of fancy, to be classed with marigolds.

How to grow the zinnia is perhaps the question of principal importance to the readers of this. It is a half-hardy annual, and must not be grown in a half-hearted manner. The seeds should be sown about the middle of April, but not earlier. They may be sown on a hotbed, and they will then germinate very quickly. It is, however, better practice to sow in a frame or under a hand-light, in light rich earth, so as to obtain the plants by a slower method, and with a corresponding surety of a fine bloom.

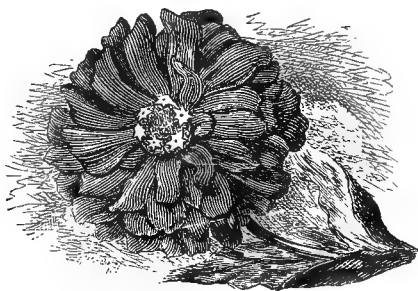
If the weather happens to be cold, cover the frame over at night with a mat, and give no air at all until the plants begin to appear, when air should be given cautiously, so as to prevent any shrivelling of the tender leaves by a dry east wind, and at the same time to ensure that healthy "stubbiness" that is so desirable in all young plants. As the plants advance they will require water and air increasingly, and nearly the same treatment as balsams demand should be given them. One point must be impressed on the mind of the amateur, and it is that, in common with the aster, the balsam, and other first-class annuals, the plants should never receive a check; for that will not only result in a deterioration of the bloom, but will also probably render the plant an easy prey to its myriad insect enemies.

The planting-out is an important matter. If the bed is made of old, sour, worn-out stuff, you will have no fine zinnias. The soil should be rather light and decidedly rich, and deeply stirred, and the position should be warm and sheltered. A garden in the northern suburbs of London, where the soil happens to be heavy and damp, was found to be unfavourable to zinnias, for the owner of that garden was resolved to have them as fine as he had often seen them in Paris, but had never seen them in England. And in the end this was accomplished, for a sloping bank facing the south was prepared for them, by deep digging, abundant manuring, and the incorporation with the stiff staple soil of a large proportion of road-grit and leaf-mould. Then, indeed, the zinnias displayed their beauties lavishly, and all the extra labour was amply compensated.

In any case, the bed should be made ready at the time the seed is sown, or earlier. As to the time for planting out, that must depend in part upon the weather, and in part

on the state of the plants. Choose mild quiet weather if possible, but above all things have the plants stubby and strong, and of a healthy green colour, as the result of the access to them of abundant light and air. If you must plant during dry sunny weather, you have but to shade and water them carefully, and take care that the plants do not suffer any serious check.

There are two so-called species of zinnia that occasionally obtain attention—namely, the *Z. grandiflora* and *Z. tenuifolia*; but as ornamental plants they are of no particular value, and it does not appear to the writer hereof that they are ugly enough to please the botanist—the reader being of course aware that, by a bit of harmless irony, the florists hand over to the botanists all the ugly and unmanageable plants that they have resolved to exclude from their gardens. But of the veritable *Zinnia elegans* there are innumerable varieties, single and double, and all are good; but the crimsons and scarlets, of all amongst our annual flowers, are the best, the yellows and purples come next in merit, and the whites must rank lowest of all.

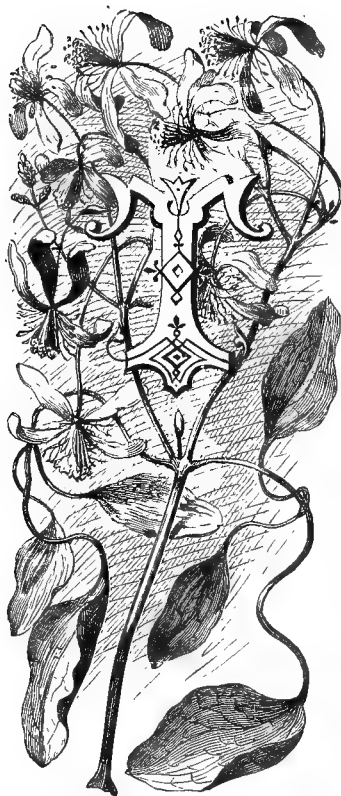






SWEET CLEMATIS.





## THE SWEET CLEMATIS.

*Clematis flammula.*

THE "Traveller's Joy," or "Virgin's Bower," is the representative of the genus *Clematis* in our glorious English hedges, which, it may be proper to observe, are without parallel in all the world for distinctiveness and beauty, although it is common to hear and perhaps fair to admit they afford signs sometimes of careless farming. But no matter, the traveller's joy (*Clematis vitalba*) is a glorious "weed," more especially in the counties of Kent and Buckinghamshire. It is a lover of chalk and limestone, and where these rocks prevail we may look for it, and be happy if we find it wreathing fantastic

garlands about thorn trees and blackberry bushes; and having made a wild foam along the roadsides with its white flowers, changing the scene by making any amount of soft, feathery, silky down for the field-mice to line their little

nests with. It is a bonny plant, the traveller's joy, and deserves its honourable and refreshing name; but as a garden plant it is valueless in comparison to the plant here figured, the *Clematis flammula* of Linnæus, which has a neater growth, and in the days of its exuberant flowering emits a fragrance so rich and powerful as to overpower all other of the autumnal odours of the garden. Both plants are common in Italy, and their tender shoots are gathered by the Italian peasant and boiled as a pot-herb—a service they are not called upon to render with us, because, in truth, our gardens supply us with better vegetables, albeit they have no Italian climate to help them.

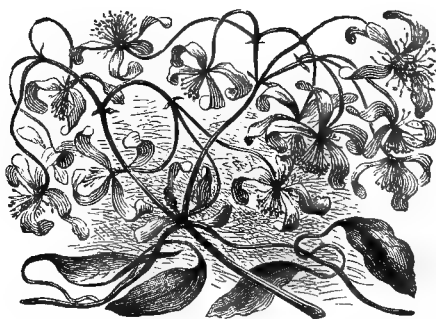
The sweet clematis is sufficiently hardy to endure the ordinary winters of Britain, but severe winters are likely to prove fatal to it, and it is always in danger more or less when planted in situations where it is exposed to keen winds or shade or damp. It is a sunshine plant, requiring an open but somewhat sheltered location, and a good depth of fertile, well-drained soil. It is often seen resting on the roof of a shed, covering a gable or gateway, or clothing a trellis with luxuriant masses of its cloudlike leafage and foamy flowers. But nowhere does it appear with greater advantage than when on a rockery, where, as Mr. Moore happily expresses it in his work on "The Clematis," "being allowed to assume a decumbent habit, its myriads of pure-white blossoms seem to pour down the declivities like masses of drifting snow, at the same time embalming the air with their fragrance."

As a slender climber of perennial duration it is adapted for many purposes in the garden, and the mention of one of them will tend, in a word, to enlarge the theme. It is often planted in beds with the new hybrid clematis, of

which the famous *Jackmanni* is the type. These grand, purple, lavender, blue, and white flowered varieties are amongst the grandest of so-called "bedding plants," as they are also of proper verandah and trellis climbers, but they are all destitute of odour, and the admixture with them of *C. flammula* adds the charm of sweetness to their gorgeous colours.

All these resplendent hybrids, in the production of which Mr. George Jackman, of Woking, led the way by his original course of procedure in cross-breeding—his *Jackmanni* being the first and, strange to say, the most useful of the series—all these are hardy and easily managed, and require in the English garden nothing more than a rich deep soil and some degree of shelter, with a fair share of the light of heaven all the year round. When first planted they may be said to go away at a bound, the growth in the second season often reaching thirty to forty feet. But after a few years they make a less vigorous growth, and become bare at the base of the stems. Then it becomes advisable to cut them down to within about a foot of the ground-line, and to remove a little of the top soil and replace it with rich mellow stuff from an old hotbed or a stack of stable-manure. The plants will again grow with vigour for two or three or more years, and will in due time once more show signs of failing. It is advisable then to destroy them and remove the soil they have been growing in, and make a new bed with fresh stuff and plant again. Owing to its prodigious flowering, *Jackmanni* is usually the first to "run out," but on deep and strong soil it will last ten to twenty years, if aided by occasional cutting back and refreshing the roots with a top-dressing.

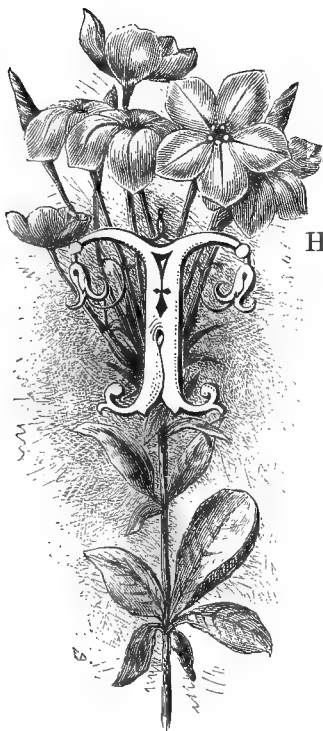
A remarkable exemplification of the splendour of the hybrid clematis as bedding plants may be seen in the entrance to the vast nurseries of Mr. Richard Smith, St. John's, Worcester. Here, amidst the richest greenery of coniferous trees, grass lawns, and banks of ivy, we behold a great hemisphere of the richest violet-blue which may be likened to the mighty shield of a warlike wanderer from Olympus. It is a bed of Jackman's clematis trained over a frame of hoops, and throughout the summer it is literally solid with the resplendent flowers. To form such a bed in any garden would be quite an easy matter, for the chief elements are time and patience.







CAPE LEADWORT.



## THE CAPE LEADWORT.

*Plumbago capensis.*

THE names of plants present for our consideration innumerable strange questions, mostly of a mirth-provoking kind, but sometimes sad enough. The name that now confronts us possesses but little interest of any kind; but the reader may very properly ask why a plant should be called a plumbago? It is, perhaps, impossible to explain the reason of the name, but it seems to have originated from the use of one of the species as a remedy in some disease of the eye. Then the decoction of the plant was

probably considered the equivalent of a solution of lead, or the name of the disease may have carried with it an allusion to the metal. The blue colour of the flowers is not far unlike that of pure lead that is as yet free from corrosion and dirt. But, after all, plumbago is not lead; it is "graphite," and graphite is a natural charcoal, or silicate of carbon, without a shadow of lead in its substance. It derived its name from its likeness to lead, or "plumbum;"

and it is commonly believed to this hour that "black-lead," or graphite, is identical with the metal lead, although they differ as much as chalk and cheese.

The Cape leadwort is a half-hardy climbing shrub, with scaly leaves, and diffuse panicles of phlox-like flowers of a soft azure-blue colour. It may be planted out during the summer, and will grow and flower freely; but to be fully appreciated it should be grown in the greenhouse, and have careful training to a wall, pillar, or trellis, when it will soon declare itself one of the most elegant plants of its class in cultivation. As for the cultivation, it is of the simplest possible kind, for the plant will grow in any ordinary compost in which there is a fair proportion of peat or leaf-soil, with sharp, gritty sand. To multiply the stock is an easy matter, for cuttings of any age will strike at any time with the aid of a little heat, although it is better to take cuttings of young shoots in the later part of the summer, and strike them under a bell-glass.

There are about a dozen species of *plumbago* known in gardens. The genus is related to *statice*, *armeria*, and *acantholimon*, constituting a group called the *Plumbaginaceæ*, all of them herbs or undershrubs, and most of them having a liking for the sea-shore, as, for example, *Armeria vulgaris*, the common thrift, which you may find in plenty on the rocky coasts of those northern counties that look out on the stormy North Sea.

The best-known *plumbagos* are *P. capensis* (here figured), and the two hardy species *P. Europæa*, native of Southern Europe, and Lady Larpent's (*P. Larpentæ*), native of China. The last-named is sometimes described as *Valoradia plumbaginoides*, on the authority of Hooker, who removes it from the genus *plumbago* because of some



trifling peculiarities of structure. These two hardy species are well adapted to plant on the face of a rockery, and they are equally adapted to clothe low trellises with their neat leafage and beautiful blue flowers.

The tropical species comprise the Mexican (*P. Mexicana*), with white flowers ; the diamond-leaved (*P. rhombifolia*), with blue flowers ; the rosy (*P. rosea*), with red flowers ; the Ceylon (*P. Zeylanica*), with white flowers ; and the climbing (*P. scandens*), with white flowers. The last-named is the best of the series. These, in common with *P. capensis*, may be had in flower all the winter by a little management, and in that case will often prove serviceable to supply cut flowers for decorative purposes.

The plumbagos are bitter and acrid, and perhaps poisonous. The root of the European species is sometimes chewed as a cure for toothache, and a preparation of it with olive oil is in high repute in the south of Europe as a cure for ulcers and the itch. All the species probably, and certainly several of them, have striking vesicatory properties, so that when rubbed upon the skin they produce inflammation, and may therefore supplant cantharides and other irritants. The staticeae have nearly the same properties, but are bitter, and are astringent rather than acrid.

The most interesting of the British plants that are allied to plumbago is doubtless the sea lavender (*Statice limonium*), which may be met with on muddy sea-shores ; the thrifts, or armerias, are but rarely seen in such situations, the sandy and rocky shores being their usual habitat. The flowers of the sea lavender are purplish, and are produced in corymbose panicles. There is a white variety, and there is also a lilac-coloured variety which is

often catalogued as a separate species under the name *Statice angustifolia*. The great sea lavender (*Statice latifolia*), native of Russia, is one of the finest hardy border plants in cultivation.

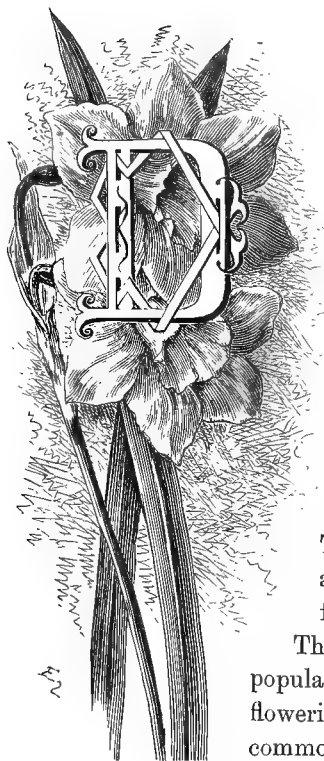
“Ye gentle shades between the trees and flowers,  
With you, ye laughing race, I'll deck my bowers.  
Oh that my theme would grant the fond delay,  
Nor with too urgent haste forbid my stay!  
With what delight my hands each spray should guide,  
And teach your curling tendrils where to glide.  
In woven bowers and roofs your shoots should grow,  
And 'neath your network arch the riv'let flow;  
Around yon elm your wedded arms should wind,  
Emblem of strength, with gentlest beauty joined.

You then to whom their lowly pomp is given,  
Display with art these charming gifts of Heaven;  
Let every season have their brilliant bloom,  
Their laughing colours, and their rich perfume;  
Let each in turn the well-wrought chaplet wear,  
Thus ne'er shall fade the garland of the year;  
But new-born joys shall every season bring,  
Each month a bower, and every bower a spring.”









## THE INCOMPARABLE DAFFODIL.

*Narcissus incomparabilis.*

AFFODILS are in the same good luck as lilies, if it be good luck for a flower to be in fashion. They are grown for the flower-markets on a scale that surprises those who are unaccustomed to the statistics of commercial horticulture, and they are also grown for the gardens more extensively than any other class of bulbs.

There are good reasons for this, and we are bound to state them as fully as our space will allow.

The two prominent reasons for their popularity are their beauty and their early flowering. Those who know only the common double daffodil of the cottage garden can form no proper conception of the variety of character and the purity and splendour of the more distinctive species and varieties. The gigantic Telamonius, the chaste and queenly Empress, the dashing Emperor, and the great golden Maximus may be named as sumptuous forms of "Lent lilies," or trumpet daffodils,

a group of flowers having direct relation to the species known to botanists as *Narcissus pseudo-narcissus*. As the varieties of this group go out of bloom the varieties of *Incomparabilis* present their charming flowers. These always appear in a nodding attitude, and they are distinguished from the group of true Lent lilies by the shorter crown, which, as Parkinson truly describes it, is fashioned like the chalice in which is held the wine at the Lord's table. Here again we have abundant variety in respect of colour, and several double flowering kinds that are exquisitely beautiful. These incomparable daffodils, or "Nompareilles," as the old writers called them, are scarcely out of bloom ere the first flowers appear on the daffodil of the poets, the *Narcissus poeticus*, which we are to suppose sprang from the watery grave of the beautiful and vain boy whose fate is told in the story of Ovid. The trumpet daffodils may be described as glorious, the incomparables as beautiful, and the poets as delicate. Here in place of a trumpet or a cup we have a cymbal or ring in the centre of the flower. All the varieties of this group are pure white, and the central ring is red, or orange, or rich yellow. Lastly, to wind up the daffodil season, we have the polyanthus group, or *Narcissus tazetta*, which are produced in clusters, or umbels, each flower having in the centre a small neat cup, which is often of a different colour to the perianth, or leaves that form the circumference of the flower. These are much valued for pot-culture and forcing.

The *Corbularia* group must have a paragraph to itself. This group comprehends the species commonly described as *Narcissus corbularia* (or *bulbocodium*), and the several varieties thereof, including one with white flowers, and

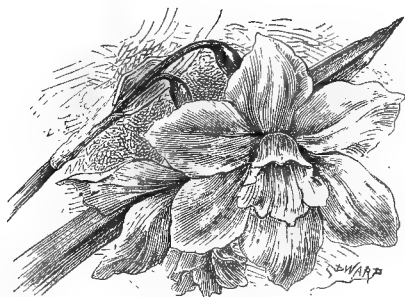
several that vary in their shades of yellow and have very distinctive outlines. The flowers of these have the tube, or trumpet, so much developed, and the outer segments so much contracted, that "*corbularia*," which means "little basket," is a very appropriate collective name for them. They are extremely beautiful, and are peculiarly adapted for pot-culture, for the adornment of the table and the conservatory with their charming flowers, which in some cases are of the richest gold-yellow, in others lemon-yellow and creamy white. When grown in a common border they are liable to destruction by spring frosts, owing to their habit of growing early in the year; but when grown in pots in sandy soil, they give no trouble, flower delightfully, and multiply in a most satisfactory manner.

These five prominent groups represent only the most popular and generally useful members of the great family of daffodils. There are twenty or more species described by the botanists, and the collectors who give special attention to them know of hundreds of varieties. It is a fact of immense interest that in the catalogue of bulbs published by Messrs. Barr and Sugden for the year 1878, there are exactly 150 varieties of daffodils described, and offered at prices ranging from five shillings to a penny per bulb. In the "*Paradisus*" of John Parkinson, published in 1656, there are no fewer than ninety-four plants described as of the narciss family; some of these might with botanical propriety be removed into other classes; nevertheless the enumeration proves that daffodils were diligently collected and seriously studied in the early days of gardening, for very many of Parkinson's varieties had come down to him as old garden favourites.

The great trumpet daffodils are such as Shakespeare had in mind when he spoke of

“Daffodils that come before the swallow dares,  
And take the winds of March with beauty.”

The earliness and the hardiness of these brave flowers render them beyond all ordinary measure valuable. It is but rarely the frost harms them, even when they flower in the early days of March, and, indeed, the only enemy to be feared is strong sunshine, which of course does not often occur in the season of daffodils. Add to their hardiness that they are not at all particular as to soil, and that when once planted they may be left undisturbed for years, and what a heap of arguments have we in favour of their cultivation, and in explanation of their ever-increasing popularity ! We will crown the great heap with a fact of some importance. The daffodils thrive in damp places that are partially shaded by trees ; hence they are available to convert into a Tom Tiddler's ground many a spot whereon but few choice flowers would find a happy home.





# INDEX OF ENGLISH NAMES.

The Roman number refers to the Volume in which an account and figure of the plant may be found, and the Arabic number to the page.

- Abutilon, II. 45  
 Abyssinian Primrose, II. 145  
 Achimenes, III. 29  
 African Lily, V. 69  
 Ageratum, IV. 121  
 Almond, III. 81  
 Alpine Wallflower, IV. 53  
 Amethyst Eryngo, V. 5  
 Anemone, V. 13  
 Arum Lily, IV. 129  
 Aster, I. 133  
 Avens, II. 85; III. 13. 101  
 Azalea, III. 53  
 Balsam, I. 53; V. 45  
 Barberry, III. 1; IV. 1  
 Begonia, I. 109; III. 85; V. 93  
 Bell Flower, III. 21, 125, 141, 149  
 Blue Sage, I. 69  
 Bouvardia, V. 9  
 Browallia, I. 101  
 Buttercup, IV. 101  
 Cactus, V. 85  
 Calceolaria, IV. 117  
 Camellia, III. 131  
 Champion, IV. 31; V. 33  
 Canary Flower, I. 17  
 Candytuft, V. 129  
 Canterbury Bell, I. 41  
 Carnation, IV. 113  
 Catchfly, III. 157  
 China Primrose, IV. 105  
 Christmas Rose, I. 33  
 Chrysanthemum, V. 53  
 Cineraria, II. 21  
 Clematis, I. 141; IV. 21; V. 149  
 Columbine, I. 93; II. 97  
 Commelina, I. 89  
 Convolvulus, IV. 61; V. 109  
 Coreopsis, V. 125  
 Cornflower, II. 117  
 Coronilla, II. 93  
 Cowslip, III. 93  
 Crassula, II. 9  
 Crimson Flax, I. 121  
 Crocus, I. 149  
 Crowfoot, IV. 69  
 Crown Imperial, II. 1  
 Cuphea, V. 133  
 Cytisus, IV. 93  
 Daffodil, IV. 37, 89; V. 157  
 Dahlia, V. 29  
 Daisy, IV. 157  
 Day Lily, V. 113  
 Dead-Nettle, IV. 57  
 Deutzia, IV. 17  
 Dog's Tooth Violet, IV. 9  
 Eschscholtzia, II. 33  
 Everlasting, IV. 29  
 Everlasting Pea, I. 105  
 Feverfew, II. 153  
 Flax, V. 121  
 Forget-me-not, V. 97  
 Foxglove, II. 17  
 Fuchsia, I. 29; III. 117  
 Garland Daisy, II. 25  
 Gentian, V. 73  
 Geranium, II. 37, 81  
 Gladiolus, I. 77  
 Globe Flower, III. 113  
 Gloxinia, IV. 137  
 Grape Hyacinth, IV. 7  
 Greek Valerian, III. 5  
 Guelder Rose, III. 149  
 Hawkweed, IV. 145  
 Hawthorn, V. 49  
 Heath, III. 153; IV. 41  
 Heliotrope, IV. 77  
 Hepatica, III. 121  
 Hollyhock, V. 89  
 Honesty, III. 137  
 Honeysuckle, I. 117  
 Hyacinth, IV. 73  
 Hydrangea, III. 89  
 Indian Cress, IV. 133  
 Indian Pink, I. 73  
 Iris, I. 125; II. 109  
 Ivy Geranium, II. 129  
 Ixia, II. 109  
 Jacob's Ladder, IV. 85  
 Japan Quince, II. 29  
 Jessamine, I. 65, 97; II. 113  
 Kerria, IV. 25

- Laburnum, II., 57  
 Lachenalia, III. 49  
 Lady's Slipper, II. 125  
 Lapageria, V. 77  
 Larkspur, II. 133  
 Lavender, I. 37  
 Leadwort, V. 153  
 Lily of the Field, V. 117  
 Lily (Orange), IV. 5  
 Lily of the Valley, III. 97  
 Lobelia, I. 85  
 London Pride, IV. 141  
 Love Lies Bleeding, V. 57  
 Lungwort, III. 45  
 Lyre Flower, V. 141  
  
 Magnolia, IV. 45  
 Mallow, II. 53, 149  
 Maréchal Niel Rose, V. 37  
 Marigold, I. 49, 61  
 Martagon Lily, I. 145  
 Mezerion, II. 141  
 Michaelmas Daisy, I. 25  
 Mignonette, V. 41  
 Mimulus, III. 77  
 Monkshood, I. 5  
 Mountain Wind-Flower, II. 137  
 Musk, I. 83  
  
 Narcissus, III. 21, 37  
 Nemophila, III. 73  
  
 Oleander, IV. 65  
 Orange Lily, IV. 5  
 Oriental Poppy, II. 5  
 Oxlip, III. 145  
  
 Peony, III. 17  
 Pansy, V. 101  
 Passion Flower, IV. 1:  
 Pea, Everlasting, I. 105  
 Pea, Sweet, I. 113  
 Pelargonium, III. 65  
 Pentstemon, II. 73  
 Perpetual Rose, II. 61  
 Persian Cyclamen, II. 157  
 Petunia, I. 9, 129  
 Pheasant's Eye, IV. 149  
 Phlox, I. 21  
 Picotee, V. 17  
  
 Pink, V. 65  
 Polyanthus, II. 69  
 Poppy, I. 153  
 Poppy Anemone, II. 41  
 Primrose, II. 77; IV. 49  
  
 Ranunculus, II. 89  
 Rhododendron, V. 61  
 Rose (York and Lancaster), I. 57  
 Rock Rose, III. 25  
 Rose of Sharon, II. 49  
 Rosy Clarkia, III. 109  
 Rudbeckia, I. 45  
  
 Salvia, III. 41  
 Saxifrage, III. 9  
 Siberian Squill, IV. 109  
 Snapdragon, II. 13  
 Snowdrop, I. 137  
 Spanish Iris, V. 1  
 Spider-wort, III. 65  
 Star of Bethlehem, II. 105  
 Stock, II. 121; IV. 153  
 Sunflower, III. 57  
 Swallow-wort Gentian, III. 61  
 Sweet Pea, I. 113  
 Sweet William, V. 81  
 Syringa, III. 33  
  
 Tacsonia, V. 21  
 Tansy, II. 101  
 Torch Lily, V. 25  
 Tulip, III. 129  
 Turbinate Bell-Flower, III. 141  
  
 Valerian, III. 5  
 Verbena, V. 105  
 Virginia Stock, I. 81  
  
 Wallflower, I. 1  
 White Lily, I. 13  
 Wind-Flower, IV. 65 -  
 Winged Broom, III. 105  
 Winter Aconite, I. 157  
 Wisteria, IV. 125  
  
 Yarrow, V. 137  
 York and Lancaster Rose, I. 57  
  
 Zinnia, V. 145

# INDEX OF BOTANICAL NAMES.

The Roman number refers to the Volume in which an account and figure of the plant may be found, and the Arabic number to the page.

- Abutilon striatum*, II. 45  
*Achillea asplenifolia*, V. 137  
*Achimenes longiflora*, III. 29  
*Aconitum napellus*, I. 5  
*Adonis autumnalis*, IV. 149  
*Agapanthus umbellatus*, V. 61  
*Ageratum Mexicanum*, IV. 121  
*Althæa rosea*, V. 89  
*Amaranthus caudatus*, V. 57  
*Amygdalus communis*, III. 51  
*Anemone apennina*, II. 137  
     " *coronaria*, II. 41  
     " *hepatica*, III. 121  
     " *japonica*, V. 13  
*Antirrhinum majus*, II. 13  
*Aquilegia leptoceras*, II. 97  
     " *vulgaris*, I. 93  
*Aster amellus*, I. 25  
*Azalea Pontica*, III. 53  
  
*Begonia hydrocotylifolia*, V. 93  
     " *intermedia*, III. 85  
     " *Mont Blanc*, I. 109  
*Bellis perennis*, IV. 157  
*Berberis aquifolia*, IV. 1  
     " *Darwini*, III. 1  
*Bouvardia triphylla*, V. 9  
*Browallia elata*, I. 101  
  
*Calceolaria hybrida*, IV. 117  
*Calendula officinalis*, I. 61  
*Calistemma hortensis*, I. 133  
*Camellia Japonica*, III. 131  
*Campanula medium*, I. 41  
     " *turbinata*, III. 141  
*Centaurea cyanea*, II. 117  
*Cheiranthus Alpinus*, IV. 53  
     " *cheiri*, I. 1  
*Chrysanthemum coronarium*, II. 15  
     " *Indicum*, V. 53  
*Cineraria cruenta*, II. 21  
*Clarkia pulchella*, III. 109  
*Clematis flammula*, V. 149  
     " *montana*, IV. 21  
     " *rubro-violacea*, I. 141  
*Commelina cælestis*, I. 89  
*Convallaria majalis*, III. 97  
*Convolvulus major*, V. 109  
     " *minor*, IV. 61  
*Coreopsis lanceolata*, V. 125  
  
*Coronilla glauca*, II. 93  
*Crassula coccinea*, II. 9  
*Cratægus oxyacantha*, V. 49  
*Crocus vernus*, I. 149  
*Cuphea platycentra*, V. 133  
*Cyclamen Persicum*, II. 157  
*Cypripedium longifolium*, II. 125  
*Cytisus laburnum*, II. 57  
     " *racemosus*, IV. 93  
  
*Dahlia variabilis*, V. 29  
*Daphne mezereum*, II. 141  
*Delphinium formosum*, II. 133  
*Deutzia gracilis*, IV. 17  
*Dianthus barbatus*, V. 81  
     " *caryophyllus*, IV. 113; V. 117  
     " *Chinensis*, I. 73  
     " *plumarius*, V. 65  
*Dielytra spectabilis*, V. 141  
*Digitalis purpurea*, II. 17  
*Dodecatheon Meadia*, III. 93  
  
*Eranthis hyemalis*, I. 157  
*Erica Cavendishiana*, III. 153  
     " *hyemalis*, IV. 41  
*Eryngium amethystinum*, V. 5  
*Erythronium dens-canis*, IV. 9  
*Eschscholtzia Californica*, II. 33  
  
*Fritillaria Imperialis*, II. 1  
*Fuchsia gracilis*, I. 29  
     " *spectabilis*, III. 117  
  
*Galanthus nivalis*, I. 137  
*Genista sagittalis*, III. 105  
*Gentiana acaulis*, V. 73  
     " *asclopiadæa*, III. 61  
*Geranium sanguineum*, II. 81  
*Geum coccineum*, III. 13  
     " *sylvaticum*, III. 101  
*Gladiolus gandavensis*, I. 77  
*Gloxinia speciosa*, IV. 137  
*Glycine Sinensis*, IV. 125  
  
*Helianthemum vulgare*, III. 25  
*Helianthus annuus*, III. 57  
*Helichrysum monstrosum*, IV. 29  
*Heliotropium corymbosum*, IV. 77  
*Heileborus niger*, I. 83  
*Hemerocallis flava*, V. 113

- Hieracium aurantiacum*, IV. 145  
*Hyacinthus orientalis*, IV. 73  
*Hydrangea hortensis*, III. 89  
*Hypericum calycinum*, II. 49  
  
*Iberis umbellata*, V. 129  
*Impatiens balsamina*, I. 53  
    " *glandulifera*, V. 45  
*Iris Germanica*, I. 125  
    " *xiphium*, V. I.  
*Ixia crateroides*, II. 109  
  
*Jasminum nudiflorum*, I. 97  
    " *officinale*, I. 65  
    " *revolutum*, II. 113  
  
*Kerria Japonica*, IV. 25  
  
*Lachenalia luteola*, III. 49  
*Lamium maculatum*, IV. 57  
*Lapageria rosea*, V. 77  
*Lathyrus latifolius*, I. 105  
    " *odoratus*, I. 113  
*Lavandula vera*, I. 37  
*Lilium candidum*, I. 13  
    " *chalcedonicum*, V. 117  
    " *croceum*, IV. 5  
    " *pomponium*, I. 145  
*Linum grandiflorum*, I. 121  
    " *usitatissimum*, V. 121  
*Lobelia erinus*, I. 85  
*Lonicera caprifolium*, I. 117  
*Lunaria biennis*, III. 137  
*Lychnis coronaria*, V. 33  
    " *dioica*, IV. 81  
  
*Magnolia Soulangeana*, IV. 45  
*Malcomia maritima*, I. 81  
*Malope grandiflora*, II. 53  
*Malva Creeana*, II. 149  
*Maréchal Niel*, V. 37  
*Mathiola annua*, II. 121 ; IV. 153  
*Mimulus luteus*, III. 77  
    " *moschatus*, I. 23  
*Muscari botryoides*, IV. 97  
*Myosotis palustris*, V. 97  
  
*Narcissus incomparabilis*, V. 157  
    " *juncifolius*, IV. 37  
    " *poeticus*, IV. 89  
    " *pseudonarcissus*, III. 21  
    " *tazetta*, III. 37  
*Nemophila insignis*, III. 73  
*Nerium oleander*, IV. 65  
  
*Ornithogalum umbellatum*, II. 105  
  
*Paeonia officinalis*, III. 17  
  
*Papaver orientale*, II. 5  
    " *somniferum*, I. 153  
*Passiflora cærulea*, IV. 13  
*Pelargonium lateripes*, II. 129  
    " *speciosum*, III. 65  
    " *zonale*, II. 37  
*Pentstemon gentianoides*, II. 73  
*Petunia Phœnicia*, I. 9  
*Phlox paniculata*, I. 21  
*Phyllocactus crenatus*, V. 81  
*Platycodon grandiflorum*, III. 125  
*Plumbago capensis*, V. 153  
*Polemonium cæruleum*, IV. 85  
    " *reptans*, III. 5  
*Potentilla alpestris*, II. 85  
*Primula elatior*, II. 69 ; III. 145  
    " *prænitens*, IV. 105  
    " *Sieboldii*, IV. 49  
    " *verticillata*, II. 141  
    " *vulgaris*, II. 77  
*Pulmonaria officinalis*, III. 45  
*Pyrethrum roseum*, II. 153  
*Pyrus Japonica*, II. 29  
  
*Ranunculus acris*, IV. 101  
    " *amplexicaulis*, IV. 69  
    " *Asiaticus*, II. 39  
*Reseda odorata*, V. 41  
*Rhododendron Ponticum*, V. 61  
*Richardia Æthiopica*, IV. 129  
*Rosa Damascena*, I. 59  
    " *hybrida*, II. 61  
*Rudbeckia hirta*, I. 45  
  
*Salvia Boliviana*, III. 41  
    " *patens*, I. 69  
*Saxifraga ligulata*, III. 9  
    " *umbrosa*, IV. 141  
*Scilla Siberica*, IV. 109  
*Silene pendula*, III. 157  
*Syringa grandiflora*, III. 33  
  
*Tacsonia Van Volxemi*, V. 21  
*Tagetes erecta*, I. 49  
*Tanacetum vulgare*, II. 101  
*Tradescantia Virginica*, III. 65  
*Tritoma uvaria*, V. 25  
*Trollius Europæus*, III. 113  
*Tropæolum canariense*, I. 17  
    " *majus and minus*, IV. 133  
*Tulipa Gesneriana*, II. 65  
    " *præcox*, III. 129  
  
*Verbena hybrida*, V. 105  
*Viola tricolor*, V. 101  
*Viburnum opulus*, III. 149  
  
*Zinnia elegans*, V. 145

# INDEX OF BOTANICAL ORDERS.

## AMARANTHACEÆ.

*Amaranthus caudatus*, V. 57

## AMARYLLIDACEÆ.

*Galanthus nivalis*, I. 137

*Narcissus incomparabilis*, V. 157

„ *juncifolius*, IV. 37

„ *poeticus*, IV. 89

„ *pseudonarcissus*, III. 21

„ *tazetta*, III. 37

## APIACEÆ.

*Eryngium amethystinum*, V. 5

## APOCYNACEÆ.

*Nerium oleander*, IV. 65

## ARADACEÆ.

*Richardia Æthiopica*, IV. 129

## ASTERACEÆ.

See COMPOSITÆ.

## BALSAMACEÆ.

*Impatiens balsamifera*, I. 53

„ *glandulifera*, V. 45

## BEGONIACEÆ.

*Begonia hydrocotylifolia*, V. 93

„ *intermedia*, III. 85

„ *Mont Blanc*, I. 109

## BERBERIDACEÆ.

*Berberis aquifolia*, IV. 1

„ *Darwinii*, III. 1

## BORAGINACEÆ.

*Myosotis palustris*, V. 97

*Pulmonaria officinalis*, III. 45

## BRASSICACEÆ.

*Cheiranthus Alpinus*, IV. 53

„ *cheiri*, I. 1

*Iberis umbellata*, V. 129

*Lunaria biennis*, III. 137

*Malcomia maritima*, I. 81

*Mathiola annua*, II. 121., IV. 153

## CACTACEÆ.

*Phyllocactus crenatus*, V. 81

## CAMPANULACEÆ.

*Campanula medium*, I. 41

„ *turbinata*, III. 141

*Platycodon grandiflorum*, III. 125

## CAPRIFOLIACEÆ.

*Lonicera caprifolium*, I. 117

*Viburnum opulus*, III. 149

## CARYOPHYLLACEÆ.

*Dianthus barbatus*, V. 81

„ *caryophyllus*, IV. 113 ;  
V. 17

„ *Chinensis*, I. 73

„ *plumarius*, V. 65

*Lychnis coronaria*, V. 33

„ *dioica*, IV. 81

*Silene pendula*, III. 157

## CISTACEÆ.

*Helianthemum vulgare*, III. 25

## COMPOSITÆ.

*Achillea asplenifolia*, V. 137

*Ageratum Mexicanum*, IV. 121

*Aster anellus*, I. 25

*Bellis perennis*, IV. 157

*Calendula officinalis*, I. 61

*Callistemma hortensis*, I. 133

*Centaurea cyanea*, II. 117

*Chrysanthemum coronarium*, II. 25

„ *Indicum*, V. 53

*Cineraria cruenta*, II. 21

*Coreopsis lanceolata*, V. 125

*Dahlia variabilis*, V. 29

*Helianthus annuus*, III. 57

*Helichrysum monstrosum*, IV. 29

*Hieracium aurantiacum*, IV. 145

*Pyrethrum roseum*, II. 153

*Rudbeckia hirta*, I. 45

*Tagetes erecta*, I. 49

*Tanacetum vulgare*, II. 101

*Zinnia elegans*, V. 145

## COMMELINACEÆ.

*Commelina cælestis*, I. 89

*Tradescantia Virginica*, III. 65

**CONVOLVULACEÆ.**

- Convolvulus major*, V. 109  
 „ *minor*, IV. 61

**CRASSULACEÆ.**

- Crassula coccinea*, II. 9

**DRUPACEÆ.**

- Amygdalus communis*, III. 31

**EHRETACEÆ.**

- Heliotropium corymbosum*, IV. 77

**ERICACEÆ.**

- Azalea Pontica*, III. 53  
*Erica Cavendishiana*, III. 153  
 „ *hyemalis*, IV. 41  
*Rhododendron Ponticum*, V. 61

**FABACEÆ.**

- Coronilla glauca*, II. 93  
*Cytisus laburnum*, II. 57  
 „ *racemosus*, IV. 93  
*Genista sagittalis*, III. 105  
*Glycine Sinensis*, IV. 125  
*Lathyrus latifolius*, I. 105  
 „ *odoratus*, I. 113

**FUMARIACEÆ.**

- Dielytra spectabilis*, V. 141

**GENTIANACEÆ.**

- Gentiana acaulis*, V. 73  
 „ *asclepiadea*, III. 61

**GERANIACEÆ.**

- Geranium sanguineum*, II. 81  
*Pelargonium lateripes*, II. 129  
 „ *speciosum*, III. 65  
 „ *zonale*, II. 37

**GESNERACEÆ.**

- Achimenes longifolia*, III. 29  
*Gloxinia speciosa*, IV. 137

**HYDRANGEACEÆ.**

- Hydrangea hortensis*, III. 89

**HYDROPHYLLACEÆ.**

- Nemophila insignis*, III. 73

**HYPERICACEÆ.**

- Hypericum calycinum*, II. 49

**IRIDACEÆ.**

- Crocus vernus*, I. 149  
*Gladiolus gandavensis*, I. 77  
*Iris Germanica*, I. 125  
 „ *xiphium*, V. 1  
*Ixia crateroides*, II. 109

**JASMINACEÆ.**

- Jasminum nudiflorum*, I. 97  
 „ *officinale*, I. 65  
 „ *revolutum*, II. 113

**LAMIACEÆ.**

- Lamium maculatum*, IV. 57  
*Lavandula vera*, I. 37  
*Salvia Boliviana*, III. 41  
 „ *patens*, I. 69

**LILIACEÆ.**

- Agapanthus umbellatus*, V. 61  
*Convallaria majalis*, III. 97  
*Erythronium dens-canis*, IV. 9  
*Fritillaria Imperialis*, II. 1  
*Hemerocallis flava*, V. 113  
*Hyacinthus orientalis*, IV. 73  
*Lachenalia luteola*, III. 49  
*Lilium candidum*, I. 13  
 „ *chalcedonicum*, V. 117  
 „ *croceum*, IV. 5  
 „ *pomponium*, I. 145  
*Muscari botryoides*, IV. 97  
*Ornithogalum umbellatum*, II. 105  
*Scilla Siberica*, IV. 109  
*Tritoma uvaria*, V. 15  
*Tulipa Gesneriana*, II. 65  
 „ *præcox*, III. 129

**LINACEÆ.**

- Linum grandiflorum*, I. 121  
 „ *usitatissimum*, V. 121

**LOBELIACEÆ.**

- Lobelia erinus*, I. 85

**LYTHRACEÆ.**

- Cuphea platycentra*, V. 133

**MAGNOLIACEÆ.**

- Magnolia Soulangeana*, IV. 41

**MALVACEÆ.**

- Abutilon striatum*, II. 45  
*Althæa rosea*, V. 89  
*Malope grandiflora*, II. 53  
*Malva Creeana*, II. 149

**OLEACEÆ.**

- Syringa*, III. 33

**ONAGRACEÆ.**

- Clarkia pulchella*, III. 109  
*Fuchsia gracilis*, I. 29  
 „ *spectabilis*, III. 117.

*ORCHIDACEÆ.*

*Cypripedium longifolium*, II. 125

*PAPAVÉRACEÆ.*

*Eschscholtzia Californica*, II. 33

*Papaver orientale*, II. 5

„ *somniferum*, I. 153

*PASSIFLORACEÆ.*

*Passiflora cærulea*, IV. 13.

*Tacsonia Van Volxemi*, V. 21

*PHILADELPHACEÆ.*

*Deutzia gracilis*, IV. 17

*PHILESIACEÆ.*

*Lapageria rosea*, V. 77

*PRIMULACEÆ.*

*Cyclamen Persicum*, II. 157

*Dodecatheon Meadia*, III. 93

*Primula elatior*, II. 69; III. 145

„ *pratensis*, IV. 105

„ *Sieboldii*, IV. 49

„ *verticillata*, II. 141

„ *vulgaris*, II. 77

*PLUMBAGINACEÆ.*

*Plumbago capensis*, V. 153

*POLEMONICEÆ.*

*Phlox paniculata*, I. 21.

*Polemonium cæruleum*, IV. 85

„ *reptans*, III. 5.

*POMACEÆ.*

*Cratægus oxyacantha*, V. 49

*Pyrus Japonica*, II. 29

*RANUNCULACEÆ.*

*Aconitum napellus*, I. 5.

*Adonis autumnalis*, IV. 149

*Anemone apennina*, II. 137

„ *coronaria*, II. 41

„ *hepatica*, III. 121.

„ *Japonica*, V. 13

*Aquilegia leptoceras*, II. 97

„ *vulgaris*, I. 93.

*Clematis flammula*, V. 149.

„ *montana*, IV. 21.

„ *rubro-violacea*, I. 141

*Delphinium formosum*, II. 133

*Eranthis hyemalis*, I. 157

*RANUNCULACEÆ (continued).*

*Helleborus niger*, I. 33

*Pæonia officinalis*, III. 17

*Ranunculus acris*, IV. 101

„ *amplexicaulis*, IV. 69

„ *Asiaticus*, II. 89

*Trollius Europæus*, III. 113

*RESEDACEÆ.*

*Reseda odorata*, V. 41

*ROSACEÆ.*

*Geum coccineum*, III. 13.

„ *sylvaticum*, III. 101.

*Kerria Japonica*, IV. 25

*Maréchal Niel*, V. 37

*Potentilla alpestris*, II. 85

*Rosa Damascena*, I. 57

„ *hybrida*, II. 61

*RUBIACEÆ.*

*Bouvardia triphylla*, V. 9

*SAXIFRAGACEÆ.*

*Saxifraga ligulata*, III. 9

„ *umbrosa*, IV. 141

*SCROPHULARIACEÆ.*

*Antirrhinum majus*, II. 13

*Browallia elata*, I. 101.

*Calceolaria hybrida*, IV. 113

*Digitalis purpurea*, II. 17

*Mimulus luteus*, III. 77

„ *moschatus*, IV. 33

*Penstemon gentianoides*, II. 73

*SOLINACEÆ.*

*Petunia Phœnicia*, I. 9; I. 129

*TERNSTRÖMIACEÆ.*

*Camellia Japonica*, III. 131

*THYMELACEÆ.*

*Daphne mezereum*, II. 141.

*TROPÆOLIACEÆ.*

*Tropæolum canariense*, I. 17

„ *majus and minus*, IV. 133

*VERBENACEÆ.*

*Verbena hybrida*, V. 105.

*VIOLACEÆ.*

*Viola tricolor*, V. 101.











